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New Petroleum Chief

Arthur Owens Detmar of Calgary becomes chairman of the board of governors of the Canadian Petroleum Association in a period of tight oil marketing problems. CPA speaks for 97% of Canada's oil and gas industry—an industry that last year chalked up an all-time revenue record of $467 million. Detmar, 46, is manager of exploration for Mobil Oil of Canada.

SPECIAL REPORT

Big Gas Exports: What They Mean To the Producers

This FP study shows how 56 gas producers could roll in profits of a major export program . . .

By W. L. DACK

Ottawa should announce its long-awaited decision on gas export by April 4.

Approval will probably be given to most—if not all—of the five separate export bids.

What would this mean to individual gas producers in Western Canada?

In an extensive study, FP has worked this out for all the producers who have long-term gas sales contracts with **Trans-Canada Pipe Lines** (as of Nov. 1, 1959).

The study covers 56 producers.

See table, p. 14.

The year 1962-63 has been chosen as representative, since contracted purchases reach a maximum level in that year and hold at that level for the rest of the 25-year contract period.

The quantities are based on an estimated 90% "take" under contracts in that year.

For calculating revenue to the individual producers in that year, an average price for gas of 12.49c mcf has been used.

(In its testimony before the National Energy Board a few weeks ago, Trans-Canada said it expects to pay $41.6 million for the 334 billion cu. ft. of gas it expects to purchase in that year.

That works out to an average 12.49c mcf.)

Since some producers were signed at an initial gas purchase price of 10c mcf and others at 13¼c mcf, with annual escalators of 0.25c and 0.38c respectively, price actually received by producers in that year will range from 10½c mcf to 13¼c mcf.

Individual producers' income in that year will range from $900 to more than $9 million and increase with price escalations in subsequent years.

British American Oil Co. will be the biggest deliverer of gas to the pipeline—a total of $9,540,061 for the 1962-63 period.

Canadian Delhi will be the second largest on the revenue list, with an estimated income of $3,452,152.

California Standard comes next, followed closely by **Hudson Bay Oil & Gas, Canex Gas** and **Provo Gas.**

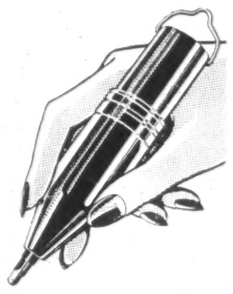
Many companies in this list have also completed gas sales contracts with one or both of the other two major pipeline purchasers — **Alberta & Southern Gas** and **Westcoast Transmission Co.**

If Ottawa approves applications to export large quantities of gas to the big California market and additional gas to the U. S. Pacific Northwest area, these producers and some others not in the list will receive heavy additional revenue.

Also, it's expected that some of the companies presently contracted to serve Trans-Canada will sign new contracts with that company for additional sales if domestic and export markets expand as expected and more reserves are proven up.

The gas contracts are for 25-year periods. First deliveries started under some of these contracts in 1957-58. All fields will have started deliveries by the 1960-61 period.

Inside



Electric Typewriter Eraser

This machine-age eraser won't smudge carbons, its manufacturer says. One of the many fascinating new products in What's New. ..... p. 11

Ottawa Tries Traffic-less Mall

Here's Canada's first experiment with closing off a downtown street to create a shopping mall. If it works, it could shape a trend. ..... p. 13

What About Taxes on Co-Ops?

Here's a politically touchy question that Ottawa and Washington can't hide under the bed much longer. p. 21

CONSTRUCTION SOON

Report Backs Dosco Mill Near Montreal

Nova Scotia steel industry study supports plans for the south shore mill, which could mean a $10 million expansion at Sydney . . .

By VINCE LUNNY

MONTREAL (Staff)—Support for **Dominion Steel & Coal Corp.**'s plan to build a steel mill on the south shore of the St. Lawrence River is contained in a new comprehensive report on the Nova Scotia steel industry.

Now in the hands of the Nova Scotia government, the report was prepared by the **Arthur D. Little** research organization. It will be tabled in a few days.

There were some misgivings that construction of steel making facilities opposite Montreal would be a blow to Sydney's steel economy.

But the Little report, **FP** understands, backs Dosco's claim that a south shore mill will provide a solution to Sydney's problems for at least 15 years.

Construction of hot and cold rolling mills is expected to start this summer as a joint venture of Dosco, Canada's third largest steel producer, and **Sogemines Ltd.**, the Canadian enterprise of Belgium's **Société Générale de Belgique** (**FP**, March 7, 1959).

Practically all technical details have been settled in meetings between the two companies. Committees are now pushing work on the financial structure.

It's expected there will be public participation in equity and debenture issues.

To supply the $50 million south shore mill with raw steel for sheets, wide strip and plate, ingot capacity at Sydney will have to be increased from 950,000 tons to 1.2 million tons.

Envisioned: A $10 million expansion program.

Sydney is now operating at capacity and, according to President A. L. Fairley Jr., indications are operations will continue at a high level for the next three months. There might be some slack later in the year.

The open hearth and blast furnace departments established new highs in February, producing 73,575 tons against a previous peak of 71,406 tons in July, 1957.

Currently under way is a $4 million improvement program.

Some $2.7 million is going into rehabilitation of boiler systems to provide cheaper and more efficient steam. No. 5 open hearth is being rehabilitated at a cost of $800,000.

A new warehouse will absorb $250,000 and carpentry and pattern working shops, $130,000.

Because it doesn't produce flat rolled products, Dosco is shut out of 46% of the Canadian steel market. By building on the south shore it hopes to fill this void in its fabrication setup.

U. S. Asks Waterways User Tax

From Our Own Correspondent

WASHINGTON—A major administration policy statement on the future of transportation in the U. S. could have repercussions in the Great Lakes.

The statement, issued by President Eisenhower, calls for **user charges on inland waterways.**

These charges, however, would be in the form of a tax on fuel rather than tolls for specific regions.

These user charges would not affect Canadian shipping if Congress imposes a fuel tax.

There has been, however, some talk of tolls for specific areas in the inland waterways—and these could affect Canada.

For instance, if there were tolls on the connecting channels of the Great Lakes, Canadian ships would be concerned. This, however, would involve a treaty with Canada.

The Canadian position, though, would be somewhat difficult since Canada is tolling the Welland Canal, one of the connecting channels of the Great Lakes, and thus it would be hard for Ottawa to protest a U. S. toll for similar projects.

The U. S. currently is spending more than $100 million to deepen and widen the connecting channels and the aim of the

(Continued on page 8, col. 2)

NATION'S BUSINESS

More Trouble Ahead For Our Exports

There has been much wringing of hands in Ottawa and Washington as 1959 figures reveal increasingly serious deficits in international trade and transactions. But Washington, anyway, has shucked the gloom about its deficit and is mounting a tremendous drive to boost exports.

This can spell more trouble for Canada, both in North America and abroad—and it comes at a time when Canada's deficit position is worse than that of the U. S.

The facts: Canada's $1.4 billion deficit in last year's international transactions means we went into the red to the tune of $86 per capita. The U. S. $3.7 billion shortfall amounted to a debit of only $21 per head. Or measured against each country's ability to produce, our deficit was almost 5% of gross national product; the U. S. deficit was less than 1%.

In the U. S., the deficit has meant an outflow of gold reserves. In Canada, the results are more ominous—a loss of Canadian ownership and mounting difficulties in servicing faster rising debt.

There is, in short, less cause for concern in the U. S. than in Canada. Nevertheless, Washington has named some of the best minds in its service to an inter-agency "task force" to increase exports 10%-20%. The Commerce Department is scheduling a series of weekly conferences with businessmen who sell abroad or who could be selling abroad. It's naming an extra 150 new commercial attaches to U. S. embassies throughout the world (p. 28).

Of particular importance, the government-owned Export-Import Bank in the U. S. is widening its credit facilities to guarantee short-term credit arrangements against such political risks as loss from acts of war. It will also expand its lending operations in the area of medium-term credit.

The U. S. effort to increase exports is an infinitely happier alternative to restricting imports or cutting down on foreign aid programs. It does, however, portend stiffer competition for Canadian salesmen abroad.

One move for Canada to help promote exports should be the development of better government credit arrangements for financing exporters' medium-term loans. This would help put Canadian exporters on an equal footing with their competitors in other industrialized countries. And it would be a beginning on the long trail back to closing our trading and transactions gap.

* * *

Can We Be Completely Neutral?

There's no country in the world that more obviously and unmistakably wants peace than Canada.

This nation, as everyone can see, has nothing whatever to gain, but everything to lose, if the so-called Great Powers, meaning those with the most guns or nuclear bombs, start another violent quarrel to decide which is the strongest. Canada, wholly by geographical accident and not because of superior virtue, is one of the contented, benevolent societies that wishes nobody any harm.

A question for all Canadians to ponder is whether, in this exceptionally happy situation, they are making the best use of their opportunity to promote peace and harmony.

As matters stand, Canada is wholly pledged to one side in what's called the cold war, a contest that might become hot at any moment. Our commitment is so total and absolute that our defence arrangements are, in effect, dictated by another country, the U. S., and our soil is wholly at the disposal of this foreign power for both defensive and offensive purposes.

Could Canada be more useful as a neutral, disengaged from the dispute that threatens world peace? There's nothing disgraceful or cowardly about neutralism. India has gained renown, and influence as well, by taking a detached, dispassionate line.

A new book by James M. Minifie, called "Peacemaker or Powder-Monkey", presents a powerful argument in favor of Canadian withdrawal from NATO and NORAD, our two military treaties. Minifie's contention is that, by relieving itself of these commitments, Canada would incur no risk, do no injury to the U. S. and acquire great influence and goodwill in the councils of the world, unattainable by an American "satellite".

The Minifie book is bound to have an important influence on Canadian thinking. (see p. 7).

These Uses Could Change Future for Gold, Uranium

By MICHAEL BARKWAY

OTTAWA (Staff) — Two of Canada's mining industries got encouraging word this week of new industrial uses for their products.

For gold and uranium, it may mean a real change of outlook.

• **The Canadian Metal Mining Association** received word of a new industrial use for gold, which has been discovered by the Federal Bureau of Mines. The association had contributed $6,000 to the bureau's research program.

No details of the discovery can be made public now since the process is believed to be patentable.

• **Atlas Steel Co.** within a few days will be rolling the first 500-lb. ingots of uranium alloy, which have been made in the mines branch.

This test of full-size operations is a big jump from the smaller-scale experiments with 50-lb. ingots, which the mines bureau has been doing itself.

It is a vital stage in proving up the new alloy which could create another use for uranium.

The alloys vary from a uranium content of ¼ lb. per ton of steel to 3 lb. or 4 lb.

Even the lower uranium content gives ordinary steel a much larger resistance to fatigue than other steels.

By using 4 lb. (and upward) with a ton of steel, great capability can be developed to resist corrosion.

One big question: With uranium at $8 lb., could industry afford the added cost, even for a better steel?

Why Life Insurance Firms Linking with Mutual Funds

By H. R. SUYDAM

National Life Assurance Co. of Canada, Toronto, has acquired a 30% interest in the operation of three well-known Canadian mutual funds — **Mutual Funds Management Corp.,** Vancouver. This is the first working partnership so far announced in Canada between a life insurance company and a mutual fund organization.

Other similar links are believed to be either arranged or under discussion.

The move by National Life comes at a time of intense competition between life companies and mutual funds in their bid for the Canadian investor's dollar.

The rise of mutual funds in the past decade has been one of North America's investment phenomenas.

In Canada for instance, their assets have quadrupled to more than $500 million in just over four years.

Fear of inflation plus a generally buoyant stock market have helped deflect this growing portion of the public's savings from the traditional "fixed-dollar" haven of life insurance, into the common stock-backed mutual funds.

Although life insurance sales have continued to rise also, industry officials have tended to view this mutual fund competition with alarm. That's what makes the National - Mutual Funds Management link of special interest.

Mutual Funds Management manages three funds — Mutual Accumulating, Mutual Bond and Mutual Income Fund — with total assets of over $24 million.

National Life, operating in both Canada and the U. S., reports $600 million of business in force.

Company has been particularly active in the group pension field, plans now administered being in excess of $200 million.

Association of the two companies follows a fairly new trend in the U. S., where, in some states, life companies have their own mutual fund subsidiaries, or vice-versa.

Such tie-ups in the U. S. are facilitated by dual licensing provisions which permit an agent to sell both life insurance and securities.

There are no similar provisions in Canada. In Canada also, a life company may not own more than 30% of the stock of another company.

One of the reasons behind National Life's acquisition of an interest in the mutual fund management company, is the feeling that life insurance companies should have some say in

(Continued on page 8, col. 4)

Water Enamels Next Big Bang In Paint Field

Watch for a new development in industrial surface coatings: water-thinned enamels.

Under hush-hush development for some time now by several big paint firms, the revolutionary new finishes promise important cost savings and greatly reduced fire risk.

They will affect the surface coatings of thousands of industrial and consumer products.

The water-thinned enamel developments have already been snapped up by one or two big industrial firms in Canada.

Many others, including big automotive companies, are appraising them.

The new products will cut costs of safety installations and practices in storage.

For instance, a lighted match thrown into the new finish will go out.

What's more there won't be any paint fumes to contend with in plant paint shops.

Four New Stocks In Nestor's List

Four new stocks have been selected by Nestor for his list of 26 Selected Growth Stocks.

Details, p. 30.

Algoma Steel, Du Pont of Canada, Consumers' Gas and **Cassiar Asbestos** have been picked by this leading investment adviser for their long term growth potential. Four others have been dropped from the list to make way for the new additions.

This is the fourth time since the selection was first made, that the list has been altered.

Changes have been made, not on the grounds that the stocks deleted are no longer growth issues, but because by Nestor's tests, the new stocks are showing greater growth potential.

Company 'Recruiters' College Press Gangs?

By JACK McARTHUR

Persuasion or information?

It's a question some of the nation's job-seeking university students are beginning to worry about.

It boils down to whether industry recruiters visiting universities to see prospective employees can provide enough general information for the student to make an intelligent decision between companies and industries.

Assuming that university recruiting is here to stay — and it's generally regarded as a good thing — how can more detailed and impartial information be given students?

More about student job-seekers, p. 21.

The answer, judging by a recent experience at McGill, could lie in student-organized information sessions addressed by a selection of leading business figures.

This may sound dull. There have been such events in the past which failed dismally because of student apathy.

But in this age of recruitment, interest seems to be replacing boredom. The McGill Commerce Undergraduate Society recently organized a "Gen-Nite" and surprised cynics by attracting a large (200) and interested crowd and some big-name speakers.

An important point: No speaker was there especially to find students for any particular type of job. Each discussed drawbacks as well as advantages.

The affair was organized by another commerce man, Arthur Dalfen, and now seems likely to be an annual event.

For his one-night fact-finding session he got J. M. McAvity, chairman of the **House of Seagram** (to talk about business administration), Howard Ross of **Ross Touche & Co.** (accounting), Hamilton Bolton of **Bolton Tremblay & Co.** (finance), W. E. Emerson of **Pepsi-Cola Co.** (marketing), Jacques Gagnon of **Aluminum Co. of Canada** (industrial relations) and R. C. Coleman of McGill's placement service (how to get a job).

The result was a freewheeling discussion which neatly complemented company recruiting on the campus.

The latter is becoming more strenuous.

McGill this year expects to have close to 240 visits from company and government representatives. Previous record: 194 in 1956-57.

But because there are so many employers beating their way to university portals, there must also be a way for students to decide which ones to see.

How Much Boom?

The Outlook

Trends in employment, the stock market and bank loans could point to slower-paced growth . . .

By DALTON ROBERTSON

Any end to the current business expansion is many months away, if business cycle characteristics are a good guide. **But there are signs that the economy may now be riding along on a plateau and that most of the big gains are already behind us.**

These indicators suggest that business activity, although sustained at a high level, won't be strong enough to produce any sharp, forward surge for the Canadian economy in 1960:

- **February figures for employment and unemployment reveal some sluggishness throughout the economy** and show that no dynamic push has developed anywhere to make up for the reduced level of employment in construction.
- **Continued queasiness of the stock market is being increasingly looked on as a "long" indication that investors are discounting the future,** despite good news on the corporate earnings front. This, of course, doesn't rule out moderate recovery in industrial stock prices over the spring or early summer (p. 34).
- **The downslide in short-term interest rates and indications of less pressure on the lending resources of the chartered banks point to less rapid growth in business activity this year.** Growth —but less rapid growth than in 1958-59.

Should these trends become more pronounced during the next few months, it's possible that 1960 may see only a 2% to 3% growth of gross national product in real terms. They also mean that tight money policies, such as those of the late summer and fall months, would be unnecessary.

* * *

Employment failed to make expected gains between mid-

(Continued on page 8, col. 2)

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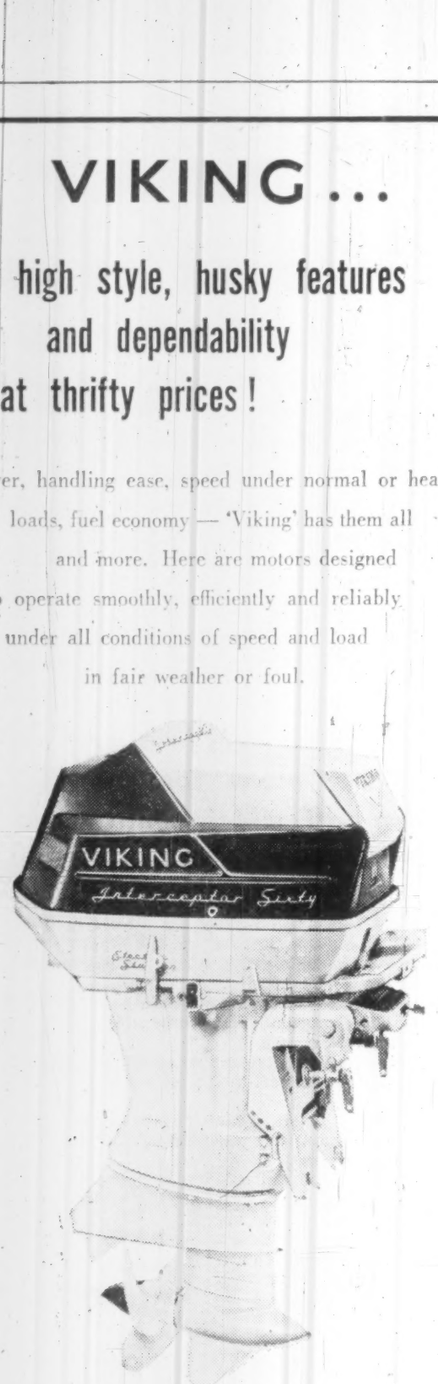

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EATON'S OF CANADA

Huge Surpluses of Propane Seen

Western Canada faces mounting surpluses of propane, as more and more gas fields are hitched into the gas gathering grid.

Next year, for instance, total propane production will reach an approximate 144.5 million gal. annual rate, but indicated sales will only amount to 56 million gal.

This adverse spread between production and sales will increase further, S. W. Pepper, executive vice-president, **Stewart Petroleums**, Calgary, warned in an address to the annual conference of the Liquefied Petroleum Gas Association, Canadian eastern division.

Pepper is chairman of the Western Canadian District, LPGA.

Allan A. Rowan-Legg, president **Superior Propane Ltd.**, was appointed president, Liquefied Petroleum Gas Association, at the three-day conference held in Toronto.

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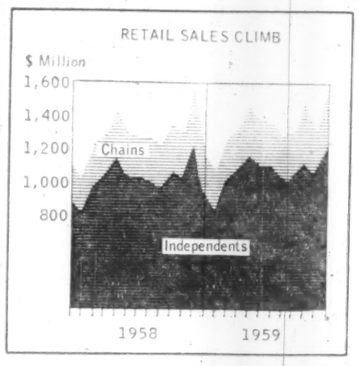
60-5

Trend of Business

Retail sales climbed 4.6% in 1959 to a record $16,149 million from previous year's $15,444 million. Both independents and chains shared in last year's gain, total for the former rising 4.1% to $12,879 million, for the latter 6.4% to $3,270 million. Chains increased their proportion of total sales slightly to just over 20%. Motor vehicle dealer (up 8.6%) and department store sales (up 5.6%) contributed largely to higher level of sales last year.



More on the cuff. Canadians owed retailers a total of $992.9 million at end of 1959, almost 6% more than $937.2 million a year earlier. Accounts owing on installment sales comprised $524 million, up 7% from $489.6 million at end of 1958; charge accounts receivable rose 5% to $468.9 million ($447.6 million). Largest percentage increases: women's clothing stores, 13.2%; men's clothing stores, 12.3%; department stores, 11.6%.

Newsprint output in February 14.5% ahead of last year at 533,596 tons (465,974 tons last year). Daily production averaged 21,081 tons, with mills operating at 86.7% of rated capacity vs. 79.4% year ago. Production for first two months this year of 1,061,036 tons is 10.9% better than 957,112 tons in like 1959 period.

Canadian farmers plan no change in wheat acreage this year, based on their intentions at March 1. They plan to seed 23.1 million acres to all classes of wheat in 1960. Increases in intended acreages as compared with last year are indicated for oats and grain (3%), flaxseed (20%), soybeans (3%) and rapeseed (161%). Less barley (—4%), rye (—4%) and summerfallow (—1%) will be sown.

More iron ore shipped. Shipments from Canadian iron ore mines in January rose 30% to 509,762 tons from 391,556 a year earlier. Ore for export totaled 392,753 tons (298,950 tons last year) and for domestic consumption, 117,009 tons (92,606 tons). End-of-month stocks were 23% lower at 2,090,558 tons.

Cold storage. Slightly fewer domestic-type mechanical refrigerators were shipped in January than a year ago—16,091 units vs. 16,104 units. End-of-month stocks were up sharply at 52,419 units (33,674). Month's shipments of electric home and farm freezers were more than doubled at 5,341 units (2,511), while month-end stocks jumped to 9,273 from 3,598 units.

Oil pipelines set a new monthly record in January with deliveries of 31.1 million bbl., 9.8% above 28.3 million bbl. a year ago. Net deliveries were larger than in like 1959 month in all provinces except Saskatchewan.

Major Weekly Indicators

	Latest or Week Ended	Date	Previous Week	Change from Month ago %	Change from Year ago %
Passenger car production	(Mar. 19)	8,389	8,215	+ 2.1	+ 3.3
Truck production	(Mar. 19)	1,928	1,829	+ 5.4	+ 20.3
Bus. fail. 4-wk. moving av. (no.)	(Mar. 10)	36.0	36.8	— 14.3	+ 15.0
Steel ingot production.. (tons)	(Mar. 12)	134,658	131,457	+ 3.0	+ 31.7
Steel production .. (% capacity)	(Mar. 12	104.2	101.7	+ 3.0	+ 23.6
T.S.E. industrial index	(Mar. 22)	487.54	485.17	— 1.9	— 8.0
Yield 114 stocks	(Mar. 21)	4.80%	4.83%	+ 2.3	+ 21.2
Chartered banks					
Personal savings . ($ millions)	(Mar. 9)	6,996	7,005	+ 0.6	— 0.4
Loan outstanding ($ millions)	(Mar. 9)	6,043	6,066	+ 0.3	+ 8.8
NHA mtge hldgs . ($ millions)	(Mar. 9)	978	979	+ 0.4	+ 19.7
Bank clearings:					
Montreal ($ millions)	(Mar. 18)	970	962	— 5.6	+ 6.5
Toronto ($ millions)	(Mar. 18)	1,394	1,182	— 20.0	+ 20.2
Cdn. dollar .... (U.S. cents ex.)	(Mar. 22)	105.235	105.228	+ 0.1	+ 1.9
Carloading totals	(Mar. 7)	64,993	*76,790	— 3.0	— 2.2
Eastern Canada	(Mar. 7)	43,468	*51,262	— 1.7	— 2.9
Western Canada	(Mar. 7)	21,525	*25,528	— 5.7	— 0.7
Iron and steel mfg.	(Mar. 7)	1,430	* 1,920	— 0.7	— 12.6
Ores, concentrates	(Mar. 7)	3,668	* 4,031	— 4.1	— 4.1
Base metals	(Mar. 7)	684	* 726	— 6.9	+ 30.8
Lumber, timber plywood	(Mar. 7)	3,785	* 4,485	— 2.2	— 11.9
Cement	(Mar. 7)	236	* 270	— 21.6	— 31.6
Bank of Canada holdings of					
Securities ($ millions)	(Mar. 16)	2,592	2,591	— 2.0	— 1.6
Short-term govt. ($ millions)	(Mar. 16)	736	730	+ 9.2	+ 180.9
Long-term govt. ($ millions)	(Mar. 16)	1,784	1,788	— 0.4	— 22.4
Other securities . ($ millions)	(Mar. 16)	14	14	— 22.2	— 22.2
Department store sales % change from year earlier ..	(Mar. 12)	—6.4	—0.7	..	+ 7.4

* Eight-day end-of-month period.

Facts by the Month

WHAT WE PRODUCE—	Latest Month	One Month Previous	Change From— Two Months Ago %	Year Ago %
In all industries (Index)	Dec. 161.6	170.2	—7.5	+7.7
In factories (Index)	Dec. 142.2	151.6	—9.7	+6.0
Total nondurable goods (Index)	Dec. 142.3	155.4	—9.7	+4.4
Food & bev.	Dec. 134.4	153.2	—16.2	—0.2
Textiles	Dec. 115.7	129.2	—10.2	+1.8
Clothing	Dec. 107.5	116.1	—10.6	—1.6
Chemical products	Dec. 193.1	200.4	—7.5	+9.3
Total durable goods (Index)	Dec. 142.0	147.0	—9.8	+7.7
Iron & steel products	Dec. 144.8	155.8	—9.4	+22.7
Primary iron & steel	Dec. 180.8	193.2	—7.1	+46.4
From mines (Index)	Dec. 250.6	260.2	—6.9	+14.2
Metals	Dec. 194.0	209.3	—12.3	+23.6
Nonferrous smelting, refining	Dec. 136.1	155.1	+2.2	+41.8
Gold	Dec. 105.9	117.4	—4.9	..
—From farms				
•Cattle delivered (000)	Jan. 157	143	+0.6	+13.8
•Hogs graded (000)	Jan. 641	784	—1.2	—0.8
Grain mill products (Index)	Dec. 123.2	141.0	—12.0	—1.9
—From sea				
East Coast catch ($000)	Jan. 1,215	4,270	—31.3	—21.1
West coast catch ($000)	Jan. 342	1,877	—86.4	—58.8
—From forests				
•Newsprint (000 tons)	Feb. 534	527	—0.7	+14.6
Pulp (000 tons)	Jan. 890	887	—4.3	+6.6
—In powerhouses				
Electricity (million kwh.)	Jan. 9,880	9,750	+5.9	+12.8
WHAT WE SELL—				
•Retail sales ($ millions)	Dec. 1,597	1,322	—11.7	+0.4
Dept. store sales ($ millions)	Dec. 192.3	152.5	+42.9	+2.3
Wholesale sales ($ millions)	Dec. 679	643	—5.6	+0.9
Mfrs. outstdg. orders ($ millions)	Dec. 2,167	2,117	+1.9	+6.3
Pass. car sales (units)	Dec. 23,388	28,833	—26.5	—19.9
WHAT'S ON HAND—				
Mfrs. inventories ($ millions)	Dec. 4,389	4,342	+0.1	+0.7
Dept. store stock sales ratio	Dec. 1.9	2.2	—24.0	+5.5
SPENDING, SAVING POWER—				
Labor income ($ millions)	Dec. 1,482	1,511	—4.4	+7.1
Dividend payts. (Index) (annual rate)	Feb. 318.3	316.7	+0.9	+5.5
JOBS—				
Persons with jobs (000)	Jan. 5,699	5,861	—4.2	+2.9
Jobless seeking work (000)	Jan. 504	370	+70.3	—6.3
Do (% of labor force)	Jan. 8.1	5.9	+72.3	—9.0
CONSTRUCTION—				
Contract awards ($ millions)	Feb. 214	214	+26.6	—6.6
FOREIGN TRADE—				
Exports ($ millions)	Jan. 422	487	—15.4	+21.3
Imports ($ millions)	Jan. 397	451	—19.0	—1.5
MONEY—				
Money supply ($ millions)*	Nov. 12,619	13,164	—3.5	—1.7
Cheques cashed ($ millions)	Dec. 24,496	22,622	+8.9	+12.3
Life insurance sales ($ millions)	Jan. 436	633	—24.0	—4.8
•Notice deposits ($ millions)	Jan. 7,515	7,458	+0.8	+0.7
•Current public loans ($ millions)	Dec. 6,142	6,260	—1.1	+13.5

*Total deposits, less Govt. of Canada deposits, less float, plus notes in circulation outside the banking system.

PRICES—					
Consumer prices (Index)	Feb.	127.2	127.5	—0.5	+1.2
Wholesale prices (Index)	Feb.	230.0	230.5	+0.1	—0.4

STRATEGIC MATERIALS—Production and Supply—	Latest Month		Month yr. ago	Yr. to date	% chge. yr to date
Steel ingots and castings (000 tons)	Dec.	550	427	5,921.7	+36.3
Nickel (000 tons)	Dec.	18.7	5.2	186.3	+33.5
Primary copper (000 tons)	Dec.	34.5	18.8	399.4	+15.7
•Lumber exports (millions fbm.)	Dec.	294	324	4,179.8	+6.0
•Lumber (millions fbm.)	Dec.	531	485	7,325.1	....

•New item this week.
Index based: production 1949=100; consumer price index 1949=100; wholesale price index 1935-39=100.

Date of issue for your file, The Financial Post, March 26, 1960.

Look For It Here

March 26, 1960

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U. S. Firm Buys Gorman, Eckert

Price of $1,267,215 was paid for the outstanding stock of **Gorman, Eckert & Co.** of London, recently purchased by **McCormick & Co.** of Baltimore, Md.

The Ontario firm is a manufacturer and processor of olives, spices, peanut butter, flavoring extracts and other food items.

It will continue to market its products here, under the Club House label. Annual sales are about $2.5 million.

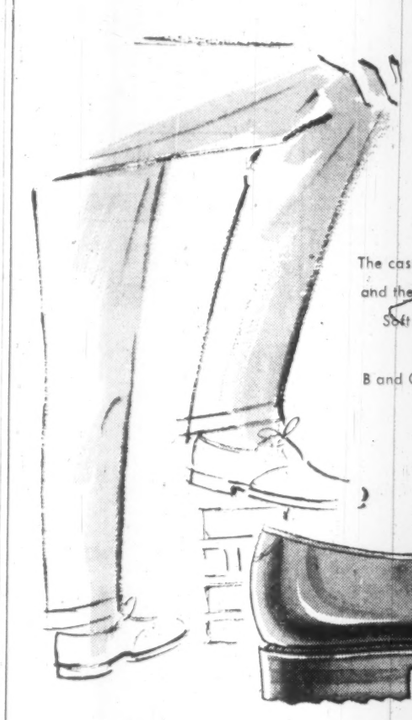
McCormick & Co. is said to be the world's largest spice and extract firm. Its sales for the year ended Nov. 30, 1959, totaled $43,049,762, an increase of 10.6% over the previous fiscal year.

Chrysler Dealers Will Handle Fiat

Italian-built **Fiat** automobiles will be marketed through selected **Chrysler of Canada** dealers, according to an agreement reached this week.

Present Fiat dealers will continue to sell the car.

About one in four Chrysler of Canada dealers now handle **Simca** cars, made in France. **Chrysler Corp.** (U.S.) owns 25% of Simca. Simca and Fiat have a close relationship in Europe.



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G. R. Greer, executive vice-president of Bestpipe Limited, announces the appointment of Ira Quinby, P.Eng., as Manager of Concrete Products.

Mr. Quinby brings to his new post over 15 years' experience in the concrete products industry. For nearly 6 years Mr. Quinby was Structural Field Engineer with the Portland Cement Association. He has also held posts of managerial responsibility in the concrete block, pipe and readymix field.

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Freight cost	—	—	2.09*
Carton dividers	4.05	not required	4.05
Carton costs	4.70	4.35	.35
		TOTAL	$8.70

*Freight costs were based on shipping weight averages. Comparison based on similarly decorated 12-oz. containers with pouring spouts.

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NORAD Losing Ground In U.S. Defence Row

Canadian business could lose big orders, as opponents of air-defence spending make their arguments felt . . .

From Our Own Correspondent

WASHINGTON — Fuss about Bomarc, Nike-Zeus, and other weapons tends to obscure a basic fact about air defence of North America:

It is no longer so important as it once was.

This trend will have far-reaching effect on Canadian business.

The high priority for air defence is slipping fast.

There are signs that NORAD is beginning to wither.

It will, of course, not die, but it is becoming less important in over-all defence planning.

Military officials on both sides of the border, however, want to expand the Canada-U. S. military integration as carried out in NORAD to other activities.

It is possible, for example, that the concept of Canada-U. S. co-operation on air defence may be extended to co-operation on anti-submarine warfare work.

Certainly ASW will become increasingly important for both countries in the immediate future.

Recent signs of dwindling interest in air defence:

- **Closing** of the U. S. Pepperell Air Force Base in Newfoundland.
- **Withdrawal** of the jet interceptor squadron at Thule, Greenland.
- **Withdrawal** of 32 U. S. Navy ships on radar picket patrol on the Atlantic and Pacific coast-flanks of the Dew Line.
- **Consideration** being given to withdrawing the jet interceptor squadron based at Newfoundland's Harmon air force base.
- **Delays and cancelations** of new or more modern equipment for the DEW Line, The Pinetree Line, and Sage.

While some new equipment is going in, such as the radar gap fillers, it is far less than originally anticipated.

"The whole thing is wobbling along with nobody really sure which way to go," one official said.

In answer to a question by FP, U. S. Defence Secretary Gates said "adjustments" may be coming in North American air defence planning, but that nothing as yet has been decided.

"We are still abiding by the Master Air Defence Plan although it is under review," Gates said.

Canadian air defence policy is tied in with the NORAD idea of defence in depth.

The difficulty is, however, there is precious little depth just now.

The highly questionable future of Bomarc is another complicating factor.

In the House Defense Appropriations Subcommittee, for instance, FP understands a resolution is about to be presented which would eliminate entirely all funds for procurement of Bomarc missiles and all funds for Bomarc research and development.

A similar resolution lost by only one vote a year ago in the subcommittee and the repeated failures of the Bomarc "B" missile have hardly enhanced the prospects for this year.

The Canada-U. S. production-sharing arrangement also is deeply involved in this changing emphasis away from air defence.

It simply means there will be far less business for Canadian industry from the air defence field than anticipated only a few months ago.

Originally, Canada expected a big business but these hopes were knocked in the head last summer with the drastic cutting back on air defence through the so-called "MAD" Plan.

Now, these hopes have been given another blow.

However, what Canadian industry now is going to lose in the air defence business, may be picked up in part in the anti-submarine warfare business.

Canadian firms already have a good reputation in this field.

A number of companies are sending officials down to Washington to give the U. S. Navy briefings on what they have to offer.

The Navy has been less enthusiastic about buying in Canada than the Air Force, but it now is warming up.

Canadian electronics firms have shown not only a lot of original ideas, but have demonstrated a capability of turning out a better product than most U. S. companies in many instances.

"We're right on top of this one, and we expect a lot of business," one official told FP.

In one case, a Canadian firm took a piece of U. S.-made equipment for ASW work, made a few alterations and turned out a far better job than the U. S. manufacturer.

The U. S. Navy handed the Canadian company a good order for its efforts.

North America got into the air defence business in a big way several years ago when the now chairman of the U. S. Joint Chiefs of Staff, Air Force General Nathan Twining, came back from a visit to Russia.

He figured the Soviets were about to build a huge bomber force and U. S. and Allied planning was based on strategy to combat this.

Once the air defence strategy was rolling, its momentum could not be stopped, even though the Soviets did not do what Twining thought they were going to do.

It is only in the last year that the momentum has slowed down, and in catching their breath, military officials now have changed their minds.

Although planning now for the anti-missile missile, the Nike Zeus, still is going forward, the forward speed is considerably lessened as more and more Pentagon officials become somewhat soured on the idea of spending so much money on North American air defence.

This is unfortunate for Canadian industry because if those opposed to air-defence spending succeed in killing Nike-Zeus it will kill a big business potential for Canadian plants.

Since this anti-missile missile or at least its forward radar acquisitional units would have been located on Canadian territory, there was a good chance for a healthy slice of Nike-Zeus business for Canada.

The peak in air defence spending and thinking was reached slightly more than a year ago.

Since then, everything has been downhill.

In early 1959, the then NORAD boss Gen. Earle Partridge was talking in terms of spending $10 billion a year on air defence of North America.

The astronomic size of this figure may well have been one of the things that tipped the scales against air defence and started the downhill journey.

This year, NORAD chief General Laurence Kuter asked for $5.5 billion.

He got only $3.9 billion.

He probably will get less by the time congress gets through.

Opponents of air-defence spending have two major arguments.

▸ **They say the major military obstacle** that has stopped the Soviets from attacking the U. S. is the Strategic Air Command which constitutes well over three quarters of the western world's deterrent power.

It has not been air defence.

Thus, they say, it is far more effective to spend more money on offensive hardware like ICBMs and less on defensive equipment like Bomarc and Sage.

The Russians, they say, are afraid of U. S. ICBMs and B-52s, not Bomarcs.

▸ **The second argument** is that a strong air defence tends to weaken your own offensive capability.

It is reasoned this way:

When the Soviets saw the U. S. building up the huge air defence system in North America, they simply copied the system.

Thus if SAC were to attack Russia, it would be hampered by Soviet air defences which would not likely have been there at all if the U. S. had not established the North American air defence system.

There also is a third argument relating to air defence against missiles.

Shooting down ICBMs has been likened to "hitting a bullet with a bullet", an extremely difficult thing to do.

Many scientists say impossible.

Why invest the more than $10 billion necessary for an anti-missile defence when it won't be much good anyway and will drain away considerable money from the offensive needs of the country.

In other words, the ever-present squabble for slices of the U. S. budget pie is being won by the SAC supporters and lost by the NORAD supporters.

SAC supporters not only are winning in the Pentagon, they are also winning in the Congress.

Sen. Stuart Symington, Missouri Democrat and a presidential hopeful, is strongly in favor of reducing air defence expenditures substantially and using the money to buy more ICBMs, as are most of the committees concerned.

One thing is important for Canadians to remember in the air defence picture.

The DEW Line, BMEWS, Pinetree, Bomarc, Nike Hercules and the whole kit-and-kaboodle of NORAD responsibility is not designed to protect the Canadian people or Canadian cities from enemy attack.

It was and is designed to protect SAC.

If, in doing this, it also helps protect some citizens of Canada or the U. S., so much the better, but the latter is not the fundamental purpose of NORAD.

It also is important for Canadians to remember that the money spent by Canada on North American defence amounts to peanuts when measured against U. S. expenditures.

When you count in the Canadian real estate involved, however, the Canadian contribution is more substantial.

But because of the small Canadian contribution from a dollar standpoint, Canada becomes the tail on this shrinking air defence dog.

Even so, with Canadian officers strategically located for liaison work in key U. S. offices, plus Air Vice Marshal Slemon as deputy at NORAD, Canada does have more influence than such a "tail" would normally have.

This does not mean the tail wags the dog by any means.

For the most part, Canada must do as it is told in this field, although Canadian officials are frequently able to soften or moderate U. S. policies Ottawa does not like.

The whole NORAD concept which may be extended to other military co-operation such as in ASW work, involves a loss of sovereignty and being the smaller power, Canada loses proportionately more.

But if the concept of NORAD is accepted, as it was by Ottawa, the loss of sovereignty is inevitable.

Bomarc Showdown

From Our Own Correspondent

WASHINGTON—A showdown for Bomarc takes place next Tuesday in the U. S. Congress.

That's the day the Air Force has been ordered to appear before the House Defence Appropriations Subcommittee with its justification for continuation of the Bomarc air defence missile program.

The committee has been highly critical of the missile, especially the "B" weapon which has failed in every one of the announced seven test shots.

The committee is considering a proposal to eliminate entirely any money in the fiscal 1961 budget for the Bomarc "B" missile. If this were done and approved by Congress, it would mean Canada would not get any Bomarc missiles since the money for those planned for installation in Canada is contained in the $421 million requested by the administration for Bomarc for the coming year.

In hearings so far the House Defence Appropriations Subcommittee has taken a number of pot shots at the Bomarc, but the big fight will come Tuesday in the private session with the Air Force. This special meeting was ordered by the committee when it told the Air Force to come back with detailed "justification" for spending any money at all on Bomarc.

Air Travel on Prairies Jumps Fast in 11 Years

From Our Own Correspondent

SASKATOON — Saskatchewan - Manitoba passenger business by **Trans-Canada Air Lines** reached record proportions last year.

Examples:

- **At Winnipeg**, outgoing passengers last year totaled 106,992, an increase of 8.3% over 1958. Incoming passengers numbered 107,691, an 8.7% increase.
- **At Saskatoon**, outgoing passengers numbered 29,613 or 32.8% higher than the year before. There were 28,901 incoming passengers, a 32.5% hike.
- **At Regina**, a 21.3% increase in outgoing traffic was reported with the total of passengers being 49,092. Incoming were 46,724 persons, a 23.2% increase.

In addition, passenger trade at smaller points like Brandon, Man., and Yorkton and Swift Current, Sask. showed a marked rise over 1958 and helped to create the record year. TCA Sales Manager Jim Finlay of Saskatoon told FP.

"Prairie people are friendlier to air travel than they used to be," he commented. "It took a while for them to get used to the idea."

He said, for example, that in 1948 TCA carried 23,720 people away from Winnipeg. The 1959 figure is almost five times as high.

At Saskatoon, the rise has been from 3,003 in 1948 to nearly 30,000 last year, almost tenfold.

At Regina in 1948, the figure was 8,396. This has jumped by about six times.

Truro Expects $5 Million Growth Surge

From Our Own Correspondent

TRURO, N.S. — Once the railway hub of Nova Scotia, Truro sees a new upsurge in economic activity as it prepares for bicentennial celebrations this year.

More than $5 million of new construction, exclusive of dwellings, is under way or is contemplated within the next two years.

Biggest single project: the $3 million Nova Scotia Teachers' College.

"There's good balance here," said Mayor Hector Hill, who operates a farm within the town limits.

Truro has two textile mills, five dairies, and three woodworking plants. Much of the present and contemplated construction involves merchandising companies.

Dominion Stores Ltd. is building a $300,000 supermarket and **Zeller's Ltd.** has a new $180,000 store. **Fry-Cadbury Ltd.** has a $95,000 warehouse.

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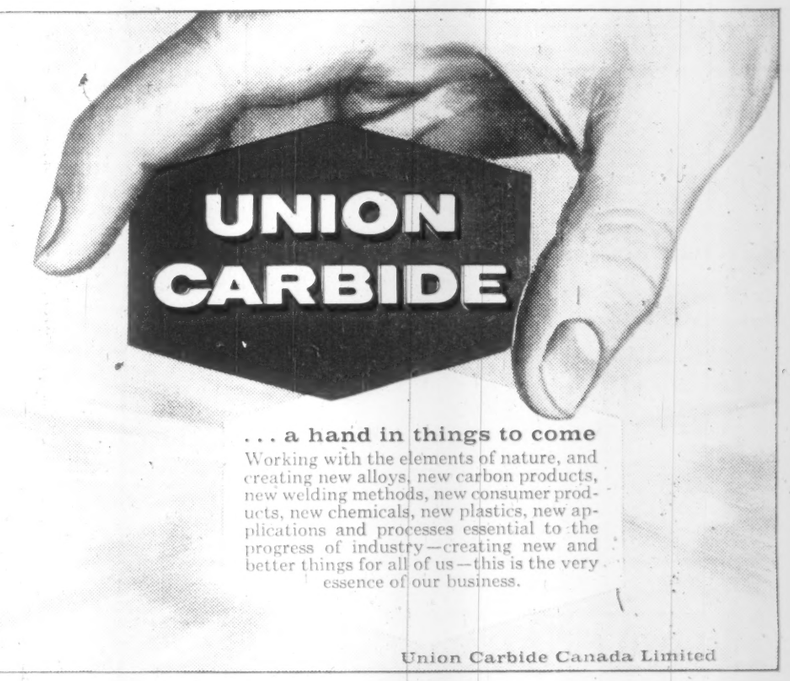

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ASSISTANT DIRECTOR

Robert B. Bradley has been appointed assistant director of the housing branch, Ontario Department of Planning and Development. Native of Toronto, Bradley entered the provincial civil service in 1942 after service in the RCAF. He spent 12 years with the Department of Mines and transferred to Planning and Development in 1953. He has been supervisor of rental housing since 1956.

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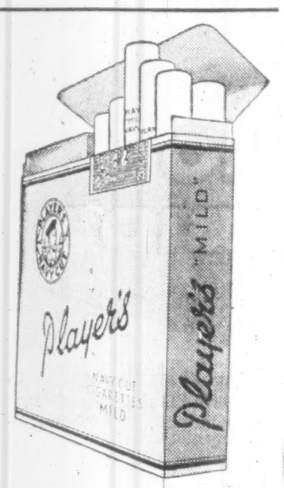

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Retail Lumber Men Push Package Deals

By FORBES GILBERTSON

Ontario's retail lumber dealers racked up $1,000 million in sales last year.

In round figures, that's the estimate of top men attending the Ontario Retail Lumber Dealers Association annual meeting in Toronto this week.

No figures are available for the country as a whole.

The 1960 outlook for Canadian retail lumber dealers is up in the air.

Dealers hope this year will match 1959 in sales but there could be a decline due mainly to a drop in housing starts.

For most dealers, the 1959 margin of profit per invested dollar was low.

The nation-wide trends today:

• **Diversification of products.** Today's dealer sells practically anything that goes into making a house — from plumbing fixtures to combination windows and paint.

• **More dealers offer** such services as a home planning service, package deals on recreation rooms, with or without labor thrown in.

• **More dealers** are going to branch out into the home-building field and land development.

Generally, the retail lumber man sets up a separate building company.

He can then become one of his own best customers.

If the building season doesn't go so well, he still has the profits from his retail business.

If it does, his profit is larger.

Dealers sell about 60% to retail customers and 40% to builders.

But builder sales, while representing large volume, also represent low profits.

That's why more retail dealers are considering branching out into the building field themselves and why they are pushing sales to home owners.

New president of ORLDA: W. Donald Harrison, **W. H. Harrison & Sons Ltd.**, Niagara-on-the-Lake.

Vice-presidents: F. Simpson Hollingsworth, **Soo Mill & Lumber Co.**, Sault Ste. Marie; and W. Gordon Thom, **Thom Lumber Co.**, Smiths Falls.

B.C. Power Stock Sold

MONTREAL (Staff) — **British Columbia Electric Co.** is expected to issue $30 million 30-year bonds next week, **FP** understands. Further details have not been disclosed.

This week **British Columbia Power Corp.**, which controls British Columbia Electric, issued 150,000 npv common shares at $31⅝ per share.

The offering, sold by a syndicate headed by **Nesbitt, Thomson & Co.** and **Wood, Gundy & Co.**, was restricted to residents of British Columbia. Maximum subscription is 500 shares.

Offering price was pegged at the closing price on March 18.

Proceeds of the issue, together with $29 million in funds currently available and $27.5 million expected to become available from operations in 1960, will be used to finance capital projects.

Irving Refinery Gets First Crude

From Our Own Correspondent

SAINT JOHN — The 40,000-ton tanker Petro King, arrived in Courtenay Bay recently to discharge crude for **Irving Oil Refinery Ltd.**, now completed at East Saint John. Testing of the refinery has been under way for several weeks.

Company officials say three million tons of shipping will be required yearly to service the plant when it is in full production.

LAND PROJECT

Central Mortgage & Housing Corp., Ottawa, has given approval to investigate a proposed land assembly project involving 500 acres on the eastern outskirts of St. John's. Investigation will include an examination of acquisition costs, planning studies and a schedule of development.

Quebec Plans to Tighten Stock Selling Regulations

MONTREAL (Staff) — A number of amendments to the Quebec Securities Act pertaining to registration regulations have been approved by the Quebec Legislative Council.

As a result:

• **The Quebec Securities Commission** may, at its discretion, grant exemption from registration in case of securities quoted, or which it has been agreed to quote, on a recognized stock exchange.

• **In the case of stock** which has already been the object of initial distribution but held by a person — or group acting together — to the extent of control, permission must first be obtained from the commission again to distribute such shares to the public in the case where such "second" distribution represents control.

• **The commission may,** at its discretion, exempt from registration sale of shares to persons or corporations who already hold such securities; or to directors, officers and employees.

• **Companies intending** to offer additional stock to shareholders must notify the Commission of their intention to do so.

The discretionary power to exempt listed securities from registration is similar to legislation already in force in Ontario.

Officials of the QSC told **FP** the discretionary power would be used "sparingly" and in general only in "special circumstances".

It could be applied, they explain, in cases where a company — which has already registered an initial distribution — wishes to offer additional stock to the public a short while later.

Curb on the re-sale of stock representing control of a company is intended to plug a loophole in the act which in some cases has been used by "stockateers" to by-pass normal registration procedures.

Why They're Moving

Facts and comment on what's going on in the market and rumors behind some of the moves.

By P. T. DURRANT

Gas pipeline stocks continue to trade in volume on Canadian stock exchanges in anticipation of an early announcement on gas export. Street opinion is that the government's decision will be made known soon, probably this week.

Trans-Canada Pipe Lines stock was firmer at $23⅞ early this week, up from $23 a week ago. **Alberta Gas Trunk Line** shares sold up to $25 last week, settling later in the $24-$25 range.

A forecast of Trans-Canada's potential earnings in 1963 is included in a study put out by **Wisener, Mackellar & Co.**, Toronto investment firm. The study compares Trans-Canada's estimates as presented to the National Energy Board with what it terms "conservative, probable and possible" estimates made by the investment firm.

In Trans-Canada's figures, exports are limited to 195 mmcf (million cu. ft.) per day at Emerson, Man., plus a small amount at Cornwall, Ont. Wisener, Mackellar's estimates assume comparable costs and expenses, take the same domestic sales, but show the effect of progressively increasing export sales (including interruptible gas exports to **Tennessee Gas Transmission Co.** at Niagara Falls).

Projected earnings for 1963 range between Trans-Canada's base estimate of $1.09 per share to Wisener, Mackellar's "possible" projection of $2.60 per share. In estimating the build-up in earnings prior to 1963, the study says earlier losses are expected to give way to net earnings of $4.52 million in year ending Oct. 31, 1961, rising to $5.75 million the following year. The 1961 figure includes exports at Emerson but makes no allowance for probable exports at Niagara Falls.

No allowance has been made for income tax since company is expected to build up sufficient write-offs and tax losses to defer any liability until after 1963. Trans-Canada is not expected to incur the full tax rate on income until well after 1967, according to the study.

Here is the projection of 1963 sales and earnings:

	TCP Base Estimate		Wisener, Mackellar Projections: Conservative		Probable		Possible	
Sales Estimate	MMCF per day	Cents per MCF	MMCF per day	Cents per MCF	MMCF per day	Cents per MCF	MMCF per day	Cents per MCF
Canadian	646.0	38.6	646.0	38.6	646.0	38.6	646.0	38.6
Emerson	195.0	28.0	195.0	28.0	395.0	28.0	595.0	28.0
Niagara	-	-	51.0	36.3	102.0	36.3	204.0	36.3
Cornwall	9.3	53.3	9.3	51.3	9.3	51.3	9.3	51.3
Total sales	850.3	38.6	901.3	38.4	1,152.3	36.5	1,454.3	35.3
			($ million)					
Total rate base est.	489.5		504.5		532.9		616.3	
Sales revenue	119.7		126.5		153.6		187.5	
Return on rate base	32.4	(6.6%)	34.7	(6.9%)	42.4	(7.8%)	52.7	(8.8%)
Interest charges	24.0		24.7		27.0		30.2	
Net earnings	8.4		10.0		15.4		22.5	
Net per share	$1.09		$1.30		$1.90		$2.60	
Est. shares o/s (mill.)	7.659		7.763		8.151		8.659	

* * *

British participation in the Canadian aviation industry may be eliminated unless something can be done to bolster business for two U. K.-controlled firms, **Avro Aircraft** (subsidiary of **A. V. Roe Canada**) and **de Havilland Aircraft of Canada.**

A spokesman for the **Hawker Siddeley Group**, which controls these two companies, said recently that it may sell its Canadian aviation interests if no new business can be drummed up. Sir Roy Dobson, managing director of the group, is coming here next month in an effort to get the Canadian plants launched on a large scale project.

Avro Aircraft hasn't been able to get its teeth into anything substantial since the Arrow interceptor program was cancelled last year. De Havilland's situation is a little better; orders are coming in for its Beaver, Otter and Caribou aircraft.

It is understood that the two Canadian plants would join together in any big project. One possibility: manufacture of de Havilland DH 121 short-range jet airliners. In addition, Avro Aircraft may get Canadian government financial support to help in development of its Avro-car (a vertical take-off vehicle), but any government contribution will depend on company's getting an extension of the U. S. Army's development contract (FP, March 12).

A. V. Roe Canada shares have traded in the $5¼-$5½ range (recent price: $5¼) since early March after slipping from the 1960 high of $6⅞ posted at beginning of January. There has been no action in de Havilland class A stock this year (95% is owned by the U. K. parent); it is currently quoted at $1.55 bid, $2.99 asked.

* * *

Auto Electric Service Co. shares bounced to a 1960 high of $28 early this week, up from the year's low of $23½, set a few days earlier. Mid-week price: $27. The spurt followed report of higher earnings for 1959 and plans to split the stock on a three-for-one basis.

Net profit rose 15% last year to $3.02 per share ($2.67 in 1958). Sales, up 16% over 1958, set a new record. If shareholders approve company's proposals at the March 31 meeting, the authorized 286,189 common shares (130,274 outstanding) will be sub-divided into 858,567 shares; authorized capital will then be increased to one million shares by creation of 141,433 new shares. There will be 390,822 new shares outstanding.

Stock of **Canadian Curtiss-Wright** eased to a new 1959/60 low of $1.85 in last week's trading, later firmed to $2. Market price has slipped from the $2.25 level early this month and the year's high of $2.75. Weakness follows the recent slump in New York in stock of the parent company, **Curtiss-Wright Corp.** The U. S. firm earned only $1.71 in 1959, down from $3.11 in 1958, over $5 in 1957. It has cut its quarterly dividend rate to 25c from 37½c; previously it paid 62½ quarterly.

New Sales For Marconi Radar Gear

MONTREAL (Staff) — **Canadian Marconi Co.** has chalked up further sales victories for its Canadian-designed "Dagmar" airborne radar navigation system.

• **Company disclosed** it has sold eight computers to Holland's flag airline, **KLM.**

The computers will be used with radar sensor units which Marconi sold KLM last year (FP, Jan. 17, 1959).

• **Department of Transport** bought one sensor unit from Marconi and is evaluating the computer, **FP** understands.

The KLM order is the first commercial order for the computer segment of the Dagmar navigational system.

In addition to KLM, Marconi has sold radar sensor units to **Irish Airlines, Pan American World Airways,** and **Varig,** a Brazilian airline.

All now are potential customers for the computer unit.

One of the big advantages of the Marconi navigation system is that, being entirely airborne, it does not require use of ground stations.

Price of the sensor unit is around $16,000 while the computer sells for about $10,000.

WORK ON SCHEDULE

From Our Own Correspondent

SAINT JOHN—A new administration building for the Saint John Municipal Airport will open in June. Additional facilities for Customs, **Trans-Canada Airlines** and for customer comfort are being provided at a cost of $419,000.

The Chartered Banks is the subject of a recent study we have prepared... Copies will be forwarded upon request.

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Price: At market—yielding about 5.30%
Exchangeable until December 31, 1962, into 5½% Non-Callable Bonds, due April 1, 1976 yielding about 5.45% for 16 years

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We, as principals, offer these bonds subject to confirmation. Official prospectus available on request.

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This advertisement is not and under no circumstances is to be construed as an offering of these shares for sale in the United States of America or in the territories or possessions thereof.

New Issue

699,411 Common Shares
without par value

Canadian Breweries Limited

(Incorporated under the laws of the Province of Ontario)

Offer of Additional Common Shares

Canadian Breweries Limited has issued to the holders of its common shares of record at the close of business on March 16, 1960 rights evidenced by transferable subscription warrants to subscribe for common shares at the price of $28.00 per share on the basis that holders of common shares of record at such time are entitled to subscribe for one common share for each 5 common shares held at such time, making a total offering of 699,411 common shares. Subscriptions will not be accepted from residents of the United States of America or any territory or possession thereof but arrangements have been made whereby such residents may sell in Canada rights represented by the transferable subscription warrants held by them.

THE RIGHTS TO SUBSCRIBE EVIDENCED BY THE SUBSCRIPTION WARRANTS EXPIRE AT 4:30 O'CLOCK IN THE AFTERNOON (EASTERN STANDARD TIME) ON APRIL 7, 1960.

Subscription Price: $28.00 per share payable on subscription as set out in the subscription warrants.

We have agreed, subject to certain terms and conditions, to take up at $28.00 per share any of these common shares not subscribed for by the exercise of subscription warrants. Any shares so to be taken up will be offered by us for sale in Canada at not exceeding the market price current from time to time if, as and when issued by the Company and accepted by us and subject to approval of all legal matters on behalf of the Company by Messrs. Fraser, Beatty, Tucker, McIntosh and Stewart, Toronto, and on our behalf by Messrs. Miller, Thomson, Hicks & Sedgewick, Toronto.

A copy of the Prospectus will be furnished on request.

Burns Bros. & Denton Limited — W. C. Pitfield & Company, Limited

McLeod, Young, Weir & Co. Limited — Wood, Gundy & Company Limited — Dominion Securities Corpn. Limited

Greenshields & Co Inc — Ross, Knowles & Co. Limited — Royal Securities Corporation Limited

Gairdner & Company Limited — L. G. Beaubien & Co. Limited — Midland Securities Corpn. Limited

Harris & Partners Limited — Wills, Bickle & Company Limited — Pemberton Securities Limited

Eastern Securities Company Limited — Osler, Hammond & Nanton Limited

One A-Blast Not Enough For Tar Sands Operation

From Our Own Correspondent

WASHINGTON—It will take a series of nuclear bomb blasts in the Athabasca tar sands before it is known if it makes economic sense to get all the oil in this fashion.

This was the sum of testimony before a congressional committee at midweek by a Richfield Oil Corp. official who hastily added that nothing could be done anyway unless Canada gave its approval.

In view of the Prime Minister's statement in Ottawa this week against any present nuclear testing, the Richfield official told FP his company's plans would be delayed.

He added, however, "we are very patient".

The official, W. J. Travers, vice-president, told the Joint Congressional Atomic Energy Committee the first test shot in the Athabasca tar sands would be about nine kilotons, half the size of the bomb that hit Hiroshima.

His company figures this would bring in about 300,000 lb. of oil.

This would not be economic rate of return, he said, figuring on $2 bbl.

The cost of this shot would be at least $1 million.

As a safety precaution, it is planned that the area surrounding the test site would be monitored both before and after the blast to check on radiation.

In addition, the Richfield official said the shock of the nuclear explosion would not be felt very far.

The residents of Fort McMurray, 64 mi. away from the blast centre, would suffer no damage, Travers said.

Richfield officials were in Ottawa this week conferring with Canadian authorities on the Athabasca blast.

While Ottawa is hesitant at this time, the U.S. Atomic Energy Commission appears to be strongly in favor of the project.

"A very good experiment," was the way it was described to the congressional committee by AEC Chairman John McCone.

Richfield and other companies have drilled more than 1,000 shallow test wells in the Athabasca area to find out how much oil is in the sands.

Richfield estimates there are as many as 600 billion bbl.

This would be twice as much as the present-known recoverable reserves of oil in the rest of the world.

Describing what would happen in the nuclear blast, Travers said **"the explosion would suddenly liberate nine trillion calories of heat energy** which would force the oil sand upward and create a slag-lined sphere about 230 ft. in dia.

"After cooling a few minutes, this sphere would collapse and a very large amount of oil sand would fall into the cavity.

"Here it would be heated to temperature which would lower the viscosity of the oil so that it could be produced by conventional pumping or flowing methods."

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Greenshields & Co Inc

INVESTMENTS

Paper Men Ponder Profits Future Plant Needs at Stake

By JACK McARTHUR

PROFIT outlook is a major question in our big, export-centred pulp and paper industry.

Earnings per share in 1959 averaged a little better than in 1958, although much less than in the big year of 1956. This year demand is booming in almost every branch of the industry, as monthly production and sales figures verify.

Yet executives are preoccupied with what they feel to be the great need to show higher profits in the future.

Why? Probably—and there have been some public statements to this effect — the answer lies in the high cost of providing new plant. If demand keeps climbing, the industry within the next few years is going to have to commit itself for major increases in capacity. It will also need to modernize equipment to keep competition in world markets.

Example of capital costs: It might cost $40 million to build a new 110,000-ton-per-year newsprint mill. If it operated at 90% of capacity, its sales would be about $12.5 million annually.

Judging by recent experience, net profit conceivably could be around $900,000. This is about 7% to 8% of sales—not bad in some fields. But it's 2¼% of capital investment — not very good.

The return on investment will be better where it's possible to add new machines to existing mills. It still might be under 4%.

It's possible to quarrel with the figures in this example. But they serve to illustrate the undoubted problem of the industry, which is one of high capital costs based on today's prices. Hence the present concern with profits.

Here are the avenues through which greater profits may come:

1. **Higher prices.**
2. **A "favorable" movement of the exchange rate.**
3. **Rising operating rates in the mills.**

The latter factor is already operating in the industry's favor.

As for the exchange rate, there is some optimism, but no one really can be sure because so many factors affect exchange rate movements. No doubt much of what the industry regards as its profit "problem" would disappear if the U. S. dollar — upon which our payment for exports is based — became stronger.

A higher value on the U. S. dollar would mean more Canadian dollars for the same volume of sales. Because the industry meets most of its costs in Canadian currency, this would boost profits, but the exchange rate is a very "iffy" proposition.

This leads the industry — a little nervously — to consider the subject of price increases.

Because it's a big industry, a lot of money is on the table. An average 3% rise across the whole range of pulp and paper products means an extra $50 million before taxes.

It should be said here that the price outlook right now seems to be one of comparative stability.

However, there are a number of reasons why pulp and paper men think at least some increases may be justified this year and next:

—Labor costs are likely to rise substantially when new contracts are signed. The increase could be as much as 8% to 10%.

—Profits, as mentioned, are felt to be inadequate.

—Demand for most pulp and paper products was much better in 1959 and will be stronger still this year. Balanced against this is considerable excess capacity in most branches of the industry.

A rundown on main products:

Newsprint: Price rises for newsprint are in a separate category because of the political storm which occurs in the U. S. — our biggest customer — whenever the level goes up.

One observer says the price could remain stable for quite a while yet. On the other hand, most Canadian producers feel they deserve higher prices.

Given the right conditions of supply and demand, the price no doubt would go up.

But what are the right conditions? This question is difficult, but fast-rising labor costs combined with extra-strong demand presumably would be part of the answer.

Pulp: Domestic prices appear unchanged for the second quarter.

On the export market, there is no second quarter change for bleached sulphite and bleached kraft. But prices for unbleached and semi-bleached kraft could strengthen.

The export market is now quite active with a stronger undertone; one executive reports. "But it's still no gravy train."

Paperboard: Price stability right now.

Here again is concern about expected higher labor costs and a feeling that price rises are needed.

The U. S. situation is important. Many of our prices couldn't go up without inviting imports from south of the border.

Board demand in the U. S. has been very strong this year. Canadian producers this year will watch the U. S. for signs of higher prices which might spread to Canada.

Fine papers: Another good increase in demand is expected this year. Capacity also is higher. Price presently appears stable but 1960's labor contracts could change that.

Trend in Pulp & Paper Results

Company and Main Products	—Earnings per share— 1959	1958	1956	Recent price	Ratio: Recent price to 1959 earnings
	$	$	$	$	
Abitibi (newsprint, fine papers, board)	2.72	2.19	3.56	36¼	13.3
Anglo-Can. (newsprint)	2.67	2.70	3.68	37⅞	14.2
Bathurst (board, converted prods.)*	1.40	1.03	4.44	23	16.5
Consolidated (newsprint, kraft)	2.56	2.45	2.98†	37¾	14.7
Donohue Bros. (newsprint)	1.57	1.47	1.57†	14	8.9
Fraser Cos. (pulp, specialty paper, lumber)	1.86	2.07	3.01	26	14.0
Howard Smith (fine paper, pulp, board, newsprint)	3.12	3.09	3.88	43½	13.9
MacMillan & B. (very wide range of forest products)‡	2.45	1.54‡	3.56		
Price Bros. (newsprint, lumber)	2.62	2.52	4.02	38¼	14.6
Rolland (fine paper)**	3.95	3.15	3.76	33	8.4

*Earnings are for Class B. †Adjusted for stock split.
‡Earnings are for Class B. *This company is now merged with Powell River.*
**Earnings are for Class A, after participation.

Note

By VINCENT EGAN

THE RISE IN bond prices resumed this week, after hesitation of a day or two to absorb last week's $200-million 5½% Canada issue.

In its final form, the two-part issue consisted of $120 million 1963 bonds, convertible into 1976 maturity, and $80 million 1969 bonds. Average price on the last $50 million: 100.23 on '63, 98.25 on '69.

* * *

Living beyond our means? Nova Scotia plans to borrow another $10 million in New York. The 20-year debenture issue, registered with SEC, will be offered in mid-April . . . A $4-million 6% 20-year borrowing by the University of Manitoba, guaranteed by the province, is to be offered by **Greenshields & Co.**, probably at a discount.

* * *

An offering, to British Columbia residents only, of 150,000 npv common shares of **British Columbia Power Corp.** has been sold this week by a syndicate headed by **Nesbitt, Thomson & Co.** and **Wood, Gundy & Co.**, at $31⅝ (last week's closing price).

Next week, the same syndicate will offer at par $30 million 30-year 6½% bonds of the subsidiary, **British Columbia Electric Co.** Bonds will be non-callable for 15 years.

* * *

Municipals: Greater Vancouver Sewerage & Drainage District is borrowing $4 million, and Greater Winnipeg Water District $3 million, both in the form of 6¼% 20-year sinking fund debentures. The Vancouver issue is guaranteed by the provincial government.

* * *

B. Greening Wire Co. issued $1,750,000 5½% first mortgage bonds, due 1961-75, at the end of 1959, annual report reveals. All but $225,000 of the proceeds are being used for new plant and equipment.

An issue of $600,000 7% 10-year sinking fund debentures of **Algonquin Building Credits Ltd.** of Toronto is being offered at par by **Matthews & Co.**

Each $1,000 debenture carries warrants to buy 25 shares at $7½ until March 15, 1962, $10 the next year, and $12 the following year. Recent price: $8. Range in 1960: $8-$7.

* * *

Traders Finance Corp. and **Canadian Acceptance Corp.** have again reduced by ¼% the interest paid on some maturities of short-term notes. New rates are 4½% on 90-179-day maturities, 5% on 180-269 days, and 5¼% on 270-365 days.

* * *

Greater Winnipeg Gas Co. plans to increase its authorized equity capitalization to two million npv common shares, from 1.5 million, if shareholders approve at the annual meeting April 4.

* * *

A new bill, approved by the Commons railway committee, would permit **Algoma Central & Hudson Bay Railway Co.** to make new capital issues if approved by two thirds of shares represented at a shareholders' meeting, rather than two thirds of all outstanding stock.

Company has no present plans to issue new bonds or stock, counsel told the committee.

* * *

Annual report of **United Corps.**, just released, notes that a new class of preferred stock was created during the year. Company issued 80,290 of the 5% $30 par preferred shares in acquiring assets of **London Canadian Investment Corp.**

The preferred shares (as they are designated) are subordinate to the npv Class A shares which carry a $1.50 cumulative preferential dividend. Preferred rank above the npv Class B shares.

New Issue

$600,000

Algonquin Building Credits Limited

7% Sinking Fund Debentures Series "A"

To be dated March 15, 1960 To mature March 15, 1970

SHARE PURCHASE WARRANTS

Debentures will carry common share purchase warrants entitling holders to purchase 25 shares for each $1,000 debenture at

$ 7.50 per share to and including March 15, 1962
$10.00 per share to and including March 15, 1963
$12.00 per share to and including March 15, 1964

We, as principals, offer these Series A Debentures, subject to prior sale and change in price, if, as and when issued and accepted by us and subject to the approval of all legal matters on behalf of the Company by Messrs. Holden, Murdoch, Walton, Finlay, Robinson & Pepall, Toronto and on our behalf by Messrs. Fasken, Robertson, Aitchison, Picup & Calvin, Toronto.

Price: 100 and Accrued Interest

Prospectus available on request

Matthews & Company
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220 Bay Street
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The Royal Bank of Canada

Offer of Additional Shares

The Royal Bank is offering shareholders of record March 23, 1960, the right to purchase one new share at $41.50 for each ten shares held.

Shares may be paid for in cash or in ten monthly instalments of $4.15 per share commencing June 27, 1960. Subscription certificates will be mailed to shareholders on or about April 4, 1960.

Shareholders may qualify for the dividend payable June 1, 1960 by subscribing and paying for their shares by April 30, 1960.

If you wish to become a shareholder, sell rights, or shares, please contact —

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ANNOUNCEMENT

ASSOCIATES APPOINTMENT

E. DOUGLAS CAMPBELL

Following its annual meeting, the Board of Directors of Associates Investment Company, South Bend, Indiana, made the following announcement.

Effective immediately, Mr. E. Douglas Campbell becomes president and a director of Associates Investment Company, and will continue as treasurer.

Mr. Campbell is a Canadian by birth. Born in Listowel, Ontario, he is a graduate of the Royal Military College in Kingston, Ontario.

DEEP FAT FRIER

James Stewart Manufacturing Co., Woodstock, Ont., has a new deep fat frier for making French-fried potatoes that will cook up to 45 lb. of raw potatoes in an hour.

KERNAGHAN & CO. LIMITED

Investment Securities

Government of Canada 3¼% Bonds due October 1, 1979
Price 75.50 to yield 5.27%

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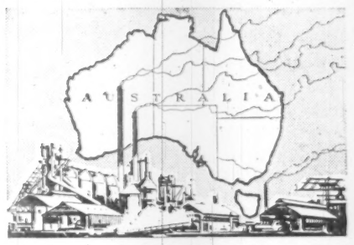

If you are interested in Australia and require industrial, economic, or market information, you are invited to use the comprehensive facilities of the Bank of New South Wales, the oldest and largest commercial bank operating in Australia, New Zealand, Fiji, Papua and New Guinea, with over 1,000 branches and agencies.

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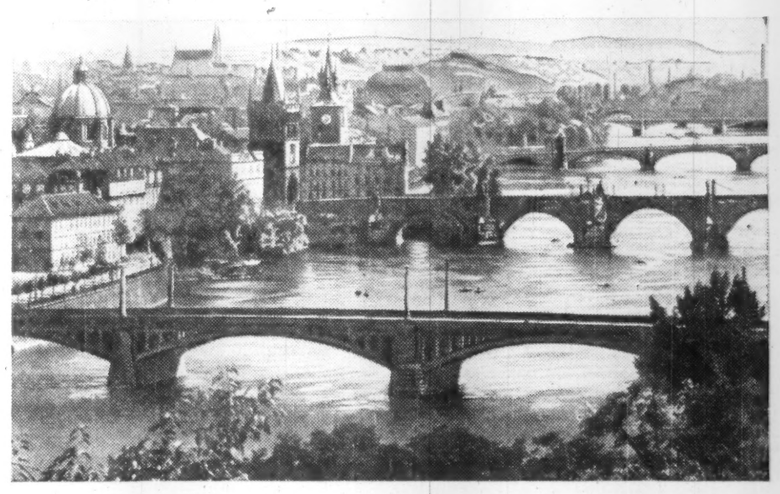

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A special treat this summer: the spectacular Spartakiada (open air gymnastic display) June 23 to July 3rd.

We Want No Managed Utopias

Due to the outcry of consumer associations, legislatures in Alberta, Saskatchewan and B. C. are cracking down on trading stamps in grocery chains. But if some of the side effects of the Alberta legislation are any guide, consumers, manufacturers and retailers alike will wonder where this close regulation of business is going to lead.

The emerging fact is this: These bills, although precipitated by a dislike of trading stamps, may go far beyond any mere outlawing of the stamps themselves.

Alberta's bill aims at banning trading stamps on the grounds that such free gift offers add to the price of family's weekly grocery basket. But as a result of the bill one radio station in the province was not allowed to give away a fur coat as part of an advertising promotion, another had to cancel an offer of a free trip to Hawaii—and one department store decided not to run a free bus to bring customers to its big sale.

It looks, in short, as though the trading stamp is bringing in its wake disaster for all premium schemes. For the manufacturer, this could mean one method less of launching new products, of increasing orders from retailers, and of getting the consumer to switch brands. In the last analysis, this tends to reduce competition.

The big fault of the trading stamp as a promotional gimmick was that it was just too widespread. To be effective, a gimmick should be so short-lived that it doesn't invite emulation. The trading stamp, by breaking this principle of good promotion, has apparently brought disfavor on all promotions.

Saskatchewan's anti-stamp legislation also promises to do a lot of regulating at the retail level. It will give the government power to make regulations "prohibiting retailers from doing or carrying on acts or practices that are considered to be detrimental to retailers or to any other class of persons or the public".

This would seem to make all competition, aside from price cutting, illegal. What does this do to advertising? To free parking gimmicks? To air-conditioned stores?

This government attempt to save man from himself—or at least women shoppers from a bargain—quite clearly says that the plain man is incapable of looking after himself and must be guided to the "right" decisions by those who know "best".

These provinces would, apparently, reduce competition — competition which has given consumers what they want at prices they are willing to pay—and aim instead at a managed utopia in plain wrappers.

Over a (Pork) Barrel

It is anyone's guess how much more Canadian consumers had to pay for pork last year due to government purchases whenever pork prices threatened to decline. It might have been $1 million or $10 million. But there's no need to guess what it's costing Canadian taxpayers to carry the pork that the government bought.

The figure is $40,000 a week, according to an answer given by Agriculture Minister Harkness to a question asked in the House by W. M. Benickson. Even at simple interest that amounts to over $2 million a year—and judging by the leisurely way Ottawa is disposing of this pork, by the year is the most realistic way of figuring it.

If a businesslike storekeeper found some line accumulating in his freezer, he would start slashing prices until he got rid of it—and he would be money ahead in the end.

But if there is one thing we can be certain of in this topsy-turvy world of government marketing of farm products it's this: The Canadian consumer, anyway, won't get any bargain prices in pork.

The Case for Independence

It's a sign of health in the independent schools that St. Andrew's College, the 61-year-old boys' school at Aurora, is seeking to raise $1,195,000. St. Andrew's needs the money for new buildings, renovation and an endowment scholarship fund.

The private schools have their detractors. But their knack of producing leaders, in business, the professions, public life and other spheres, is convincing proof of their value to the country.

Like other independents, St. Andrew's derives almost all its current revenue from fees. Its fee income is 97% of the total (the rest from gifts) and it receives no grant of any kind from government at any level, municipal, provincial or federal.

As a consequence, the school not only saves the taxpayers money but has some of the independence of a university. Though its students must pass the same exams as those set for state-supported schools—and almost always do so with flying colors—the headmaster and staff are free to arrange the curriculum as they think fit. It would indeed be a dull world if, by law, everyone had to be educated in precisely the same way.

St. Andrew's, let us hope, will raise the capital fund it needs. Long may it and other independent schools flourish.

Wanted: More Full Men

Canadians should read more books. Though justifiably proud of its high standard of living, this country makes a poor showing as a patron of literature.

If the number of bookshops per capita can be taken as an index of civilization, Canada is 14th in the list. The only consolation is that the U. S. takes 15th place.

With one bookshop for every 18,125 people, Canada trails behind Austria (top scorer with a bookshop for every 2,745), Denmark, Australia, Italy, the U. K., the Netherlands, Belgium, Russia, West Germany, France, Switzerland, Sweden and Norway—in that order.

This information comes from the sponsors of Canadian Library Week, April 3-9, which has the admirable purpose of persuading Canadians to read, discover the resources of their libraries and agitate for more and better collections of books.

The printed word is still the best method of communicating and exchanging ideas; and it's painful to learn that, according to the pollsters, only 26% of Canadians have read a book "recently", as against 31% in 1953 and 40% in 1945.

If the habit of reading is slowly becoming obsolete, as these figures suggest, it will soon be a debatable question whether the human race is making headway or backsliding. Reading, as Bacon says, maketh a full man.

Let us hope that Canadian Library Week will recruit many new book-readers and stimulate the studious to persevere.

Why Hostility Might Decline

The foreign relations committee of the U. S. Senate recently asked a group of Harvard University experts to study and report on ideology as a factor in policy. Is the conflict between "capitalism" and "communism" real or imaginary? That was, in effect, the question submitted to the professors.

Their most interesting contribution to the argument is this sentence:

"Given time and evolution, doctrinally rooted hostility might decline, if it became clearer to the Soviets that our system was not giving way to theirs but that both are subject to continuous change."

The soundness of this comment is well illustrated by recent events in China.

Mao Tse-tung and his colleagues have discovered that Khrushchov was right when he warned them that the "commune" agricultural system wouldn't work. Plots of land have been handed back to individual peasants, village "free markets" for some foodstuffs have been restored and incentive wages are being paid to cultivators still employed in state-run farming.

Neither side in the cold war is 100% committed to a doctrine. Both systems are experimental and in process of evolution. The ideological battle, as the Harvard men imply, is an intellectual exercise that has little relation to the economic facts of life.

Knocking Back the Pills

When pills and medicines are buckshee or nearly so, the public is apt to take too much medication and some doctors prescribe more than necessary.

So reports an official British committee. It was set up to discover why prescription costs of the National Health Service were going up. It finds there is no "widespread" extravagance and irresponsibility; but there's some.

At the start of Britain's health scheme the patient could obtain all the drugs ordered for him free of charge, even if that meant $100 or $1,000 worth of scarce new antibiotics. To stem the human tidal wave to the chemists' shops, the government soon imposed a fee of one shilling or 14c for each prescription filled.

Despite this charge, the gross cost of supplying free drugs rose from £31.7 million in 1949-50 to £62.9 million in 1957-58.

The committee proposes "severe" penalties for those who "prescribe extravagantly to attract patients".

It's the mad, sad outcome when doctors are remunerated on the basis of quantity of patients, not on quality of service.

Doing What Comes Naturally

Another contribution to sociology by the taxicab industry.

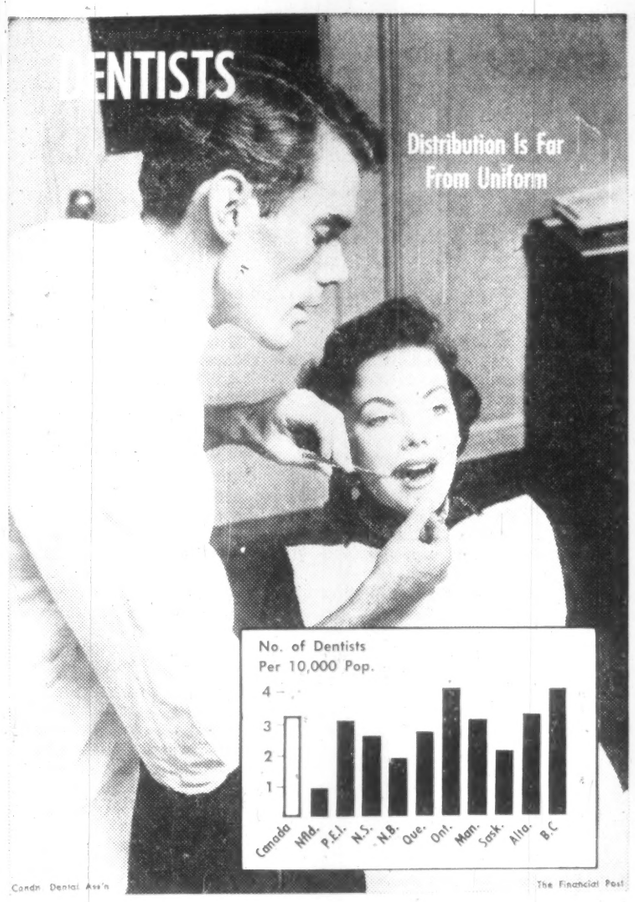
The car in front, about 50 yards ahead, flashed its rear lights on and off. The taxi driver quickly slowed down from 35 to 20 miles an hour.

"He's giving me a signal," the driver said, "that there's a radar box nearby."

A few seconds later the radar box, measuring the speed of approaching automobiles, came into view.

"Driving in this town," the taxi man said, "is becoming more and more like a game of cops and robbers."

The moral appears to be that laws moderate, without destroying, the natural, conspiratorial anarchy of man.



Post Scripts

MR. CANTLON

"Right Timing"

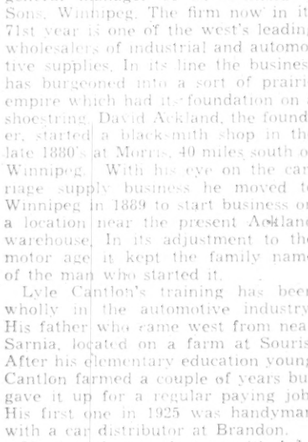
Lyle Cantlon, new president of the Canadian Automotive Wholesalers and Manufacturers Association, is general manager of D. Ackland & Sons, Winnipeg. The firm now in its 71st year is one of the west's leading wholesalers of industrial and automotive supplies. In its line the business has burgeoned into a sort of prairie empire which had its foundation on a shoestring. David Ackland, the founder, started a blacksmith shop in the late 1880's at Morris, 40 miles south of Winnipeg. With his eye on the carriage supply business he moved to Winnipeg in 1889 to start business on a location near the present Ackland warehouse. In its adjustment to the motor age it kept the family name of the man who started it.

Lyle Cantlon's training has been wholly in the automotive industry. His father who came west from near Sarnia, located on a farm at Souris. After his elementary education young Cantlon farmed a couple of years but gave it up for a regular paying job. His first one in 1925 was handyman with a car distributor at Brandon.

He started as a salesman with Ackland's firm in Winnipeg in 1937. Ten years later he was back in Brandon as branch manager. The next year he was transferred to Winnipeg, became general sales manager in 1948, a position he held until his promotion as general manager in 1955.

Cantlon admits to a certain amount of luck in timing. He got into what he thinks was the right line of business at the right time. He works hard, gets enjoyment from it, does considerable commuting between branch offices. When the chance comes for a breakaway he heads for some retreat where he can hunt and fish.

He has two daughters, both in Winnipeg.



MR. ORMSETH

Heads Food Processors

Ben Ormseth, vice-president and general manager of Green Giant of Canada is the new president of the Canadian Food Processors Association.

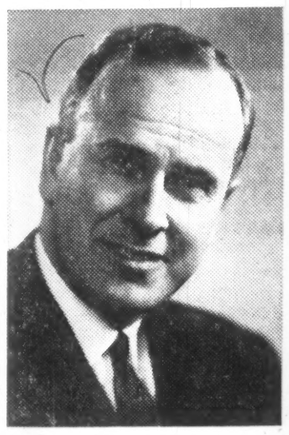
Ormseth was born in Farwell, Minnesota and educated at the Minneapolis Business College and LaSalle Extension University, majoring in accountancy. He started in the canning business as a bookkeeper for the Gopher State Canneries Inc., with head office at Duluth, in 1925. Three years later the company was merged with Minnesota Valley Canning Co., forerunner of Green Giant. In 1931, a branch was opened at Tecumseh, in southwestern Ontario and Ormseth came with it. A few years ago he was made general manager.

The plant has been expanded rapidly in Canada and today processes as many cases of both peas and corn in a day as it did originally in a whole season.

The year he moved to Canada Ormseth married Glenna Ruth Gerber of Minneapolis. They have three children, a daughter and two sons.

His hobbies include golf and photography.

Ormseth has been associated with the food processors' group for many years. In addition to his newly appointed post he is also director and immediate past president of the Ontario Food Processors' Association.



MR. ROWAN-LEGG

New Energy Industry

Allan A. Rowan-Legg, head of Superior Propane Ltd., has been elected president of the Liquefied Petroleum Gas Association of Eastern Canada.

A one-time gasoline station employee, tall, rugged Rowan-Legg has spent a lifetime in the petroleum and allied industries. Born in Ottawa in 1912 he started his long association with the oil industry with a job with Imperial Oil in 1932. After a training course, he specialized in sales and statistics. He held many positions with Imperial and in 1941 took over the domestic fuel department in Toronto. The next move was to Halifax, where he held the post of assistant ship's agent. In the last war this naturally led to service with the Royal Canadian Navy and he still holds a commission in the RCN Reserve.

Returning to Imperial Oil, he remained with that company until 1952. After four years with Canadian Oil Companies he joined Interlake Fuel Oils Ltd. as vice-president and sales manager, and resigned to head Superior Propane in 1957.

"Liquefied Petroleum Gas," points out Mr. Rowan-Legg, "is playing a very important part in the national energy picture at a time when industry is adjusting to the use of natural gas in many areas. The Canadian market is following the trend established several years ago in the United States. With the expansion of markets for natural gas, propane gas sales have more than kept pace with this expansion. It is anticipated that as the natural gas program expands throughout Eastern Canada, so will the market for propane gas."

Allan Rowan-Legg makes his home in Toronto. He is married and has three daughters. His hobbies include fishing, golf and yachting, but his main recreation is gardening and he specializes in keeping rare plants blooming year after year.

Eric Haworth Says . . .

SIMULTANEOUS translating, electronic family selectors, dial-parking and hermetically controlled sewage dumps notwithstanding—where in the Soaring Sixties is the Automatic Convention Selector?

For with all our hordes of frighteningly qualified experts so able to blot us out at the drop of a countdown, we still stagger under the curse of the Convention Calendar. As bethumbed, tattered and unbecoming a token of 20th century enterprise as a witch doctor's bag of bones.

No, what we need is an All-Canadian Clearing House for Conventions. Its job: To put back the pleasure in this event—and eradicate the great convention vacuum. Here's how it would work.

First of all, as a convention-goer you would join the club (the Maple Leaf Convention Club, say). Initiation fee, $25; annual membership dues, $50.

This would entitle you to a stain-proof membership card; a list of the Christian names of the maitres d'hotel in all MLCC-approved hotels; a concert-pitch whistle for obtaining priority service at taxi-stands.

Now, suppose you (a paid-up member) are feeling the first dull pangs of a convention urge. All you do is complete the convention requisition that is sent to all MLCC members every week. The form is specific. It lists questions like:

- How long do you want event to last?
- State the five most important subjects of interest to you.
- Wet or dry convention?
- What's your wingding rating?
- Do you want to stag it—or tote your spouse?
- Are you interested in a formal convention or a "blowing-off-the-cobwebs" junket? In which case, who is paying the shot—you or the firm?

When these and other sundry questions have been answered, you mail the card back to head office.

Three Grades

Five days later, you get notification when the type of convention you're best suited for will take place—and how much it will cost. (Thrifty, Three-Star and Splurge grades will cater for all pockets.)

As the plan gets under way, MLCC will hook up with a Dial-Ur-Convention system. This means that convention needs can be phoned in on an around-the-clock basis. By slipping a coded disc on the phone dial, and referring to a printed key, the full details will be communicated to head office without paperwork.

The information will be assimilated by an advanced calculator-type machine which, every noon, will print the results of the previous 24-hour demands. It will determine when enough enquiries make it economically possible to set up a convention, and until that stage is reached will store information in its "memory".

When enquiries reach a convention size, it will simultaneously make all reservations on behalf of MLCC and notify all interested members of the forthcoming event.

As soon as reservations have been confirmed, the machine will automatically scan current air and rail timetables, work out a routing for each member, and print this information on pre-stamped cards ready for mailing.

A companion machine will issue all tickets and coupons for the convention and prepare news releases for all media. Concurrently, this unit could be made to prepare a horizontal advertising campaign boosting MLCC.

You can see the tremendous advantages of this organization. Everybody will get a convention tailored to his individual needs. As the scheme progresses, it should be possible to arrange off-beat conventions for connoisseurs.

Convention Kit

As an inducement to selected executives, there would be the Gold Medal Convention Kit. This would include a Convention Suit (a business suit which when turned inside out, becomes a set of tails, plus collapsible opera hat); an inflatable podium; nylon roller skates for whizzing down midnight corridors; a box of assorted tricks and a copy of "The Top Executive's Gag Book"; an exclusive De-Conventionizer (this removes all the after-effects of conventions, before the member rejoins the family fold).

Altogether, this exhaustive service should do much to revive the lost art of convention going . . . and put Canada up-front in this important field.

Unfortunately, it won't change the first need of any conventioneer — a sturdy physique and an un-bleary eye.

Eric Haworth has been writing light articles and scripts for magazines and TV for several years. He's associate editor of Canadian Packaging magazine, Toronto.

What Others Are Saying

Natural Advantages Not Enough

Montreal Gazette

What Canada can do to help narrow her trading deficits will depend on her ability to meet stiff competition in a world in which alternative sources of supply, and better and more varied goods, are now readily available. In other words, the implicit confidence that our natural advantages will close our trading deficits, is as unreal as implicit confidence in monetary policies to provide their magical deliverance.

It is as well that Canadians are becoming more conscious of their real position, and are thinking more about it. This is not ground for lamentation or pessimism. We are still a most fortunate nation. With more hard work, and a greater willingness to rely on what we produce and earn, rather than on what we borrow, the future can be bright.

But "living high on the hawg" is neither good economic sense nor good economic morals.

* * *

WE WOULD RATHER PUT UP with the salt nuisance than risk driving on icy roads, declares the **Wingham, (Ont.) Advance-Times**, "but there is considerable talk nowadays about the use of other types of ice inhibitors which would not be so hard on the cars. It's about time to get action."

* * *

ALCOHOLISM has been called a disease, but, comments the **Ottawa Citizen**, "among some groups—those of Italian and Jewish descent, for instance—the alcoholism rate is negligible. Among other groups it is high. If alcoholism were a disease, it would surely be fairly evenly spread among all groups in a community. Possibly a change of attitude in the community would be helpful: An excessive drinker isn't a sick person, or even a sinner; he's a fool."

* * *

WHEN YOU DISAGREE with someone, say so, advises the **Peterborough Examiner** which adds, "You don't have to shout, to paw the air, to offer to fight him, or to forswear his company forever. You don't have to embarrass your wife — though Canadian wives seem to embarrass more easily than most women — and you don't have to embarrass yourself. You can disagree without being a churl. But if you feel disagreement you ought to say so. Otherwise you are endangering your health—and not your mental health alone."

Stop Me If . . .

After what seemed like hours a white-robed doctor emerged from the examination room and addressed himself to Mr. Jones.

"Mr. Jones, your wife has quinsy."

"My gosh," said Jones, before he fainted, "that makes 15."

* * *

Little Peter was playing at Jimmy Brown's house. When it was time to go home it started to rain. Mrs. Brown offered to lend him Jimmy's raincoat.

"Don't take so much trouble, Mrs. Brown," said Peter politely.

"I'm sure your mother would do as much for Jimmy."

"My mother would do more," replied Peter, "she'd ask Jimmy to stay for supper."

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March 28, 1960

Could Canada be a "Neutral" Nation?

New book suggests independent role outside NATO and NORAD . . .

By J. B. McGEACHY

THE MOST COMPLETE and vigorous argument for Canadian neutrality yet made by anyone, so far as I know, is contained in a book that will be out this week-end. It's called "Peacemaker or Powder-Monkey" and it's by James M. Minifie, known to most Canadians as a political broadcaster and reporter from Washington.

Mr. Minifie's thesis is that Canada can best serve its own interests, and be a useful citizen of world society, by setting up as a neutral, like Switzerland, Sweden, India or Austria. He boldly accepts the necessary corrolary that a neutral Canada would have to get out of NATO, break its military arrangements with Washington for North American defence and expel (though no doubt, more politely than the Cubans and others who cry "Yanqui, Go Home") all the U. S. forces, weapons and installations now on Canadian territory.

This doctrine is not wholly novel, but it is so revolutionary that most Canadians have allowed themselves to think about it only in a tentative, speculative, almost day-dreaming way. To many in this country it is as heterodox, and instantly unacceptable, as would be, let us say, a proposition that we should all embrace the Mohammedan religion.

Nevertheless I am sure that every Canadian who thinks about these matters should read, will in fact have to read, Minifie's book. He has marshalled an impressive array of information, some of it startling, and his opinions are stated with great cogency and force.

Whether he is right or wrong, whether his ideas gain acceptance or not, it's interesting in itself that a journalist of his repute (which is that of a scholarly, moderate, "liberal" but certainly non-Communist man) has staked his name on a theory, or prescription, that strikes many as both bizarre and wildly impracticable.

To give you my own reaction right away, I'm partly but not fully persuaded. This is not a position I enjoy; I much prefer to be strenuously on one side of an argument or the other. But what I feel in this case is that I simply don't know enough to be sure of my ground; and I suspect that many other Canadians, including some in positions of power, are in the same fix.

The question of Canadian security and defence, judging from recent events and utterances, is highly obscure; few who take part are certain that this or that course is incontrovertibly the right one. But Minifie, for one, has made up his mind. What we need now is a reply to him, equally well-informed if possible, followed by a great debate.

"Peacemaker or Powder-Monkey" is an arresting title; but the second word, though it may be familiar to men who fought against the Spanish Armada or to persons actively engaged in mining, was unknown to me.

According to both Webster and the Oxford, **a powder-monkey was (in the days of decisive naval battles) a boy on board ship who carried powder to the men in charge of the guns.** In later use, Webster says, a powder-monkey means "a cake of damp gunpowder" or a person who looks after the dynamite in blasting operations.

Presumably Minifie is using the term in its original, ancient sense; and he means that the Canadian choice is between peace-making and serving as a junior auxiliary gun-loader for the U. S.; with no power of decision whether the guns will ever go off and, of course, with no influence on the peaceful settlement of disputes.

J. B. McGEACHY

"It is difficult or impossible for Latin Americans, East Europeans and others to see Canada as anything but a satellite (with about as little independent judgment as, say, Bulgaria) when part of the Canadian forces is under direct U. S. command."

This role of underling powder-monkey is apparently Minifie's idea of Canada's actual position in the world today. (By the way, he was born in England, came to Canada as a boy, lived here many years, went to Oxford as a Canadian Rhodes scholar, owns property in Saskatchewan, and is now, as a long-time resident of Washington, a naturalized American; this personal background seems essential to establish his credentials as an observer qualified to see both sides of U. S.-Canadian issues.)

According to Minifie, Canada is now, to all intents and purposes, an American colony and satellite. This may not be how Canadians see themselves; but **it is difficult or impossible for Latin Americans, East Europeans and others to envisage Canada as anything but a satellite (with about as little independent judgment as, let us say, Bulgaria) when part of the Canadian armed forces is under direct U. S. command; the DEW line, Newfoundland bases and other installations are in effect U. S. property; Canada obediently follows the American lead (against its own better judgment) on recognition of Communist China; Canada at American behest is making materials for chemical - bacterial - radiological warfare; large segments of key Canadian industries are owned by American investors; and various agencies of the U. S. government think it fit and proper to impose, or attempt to impose, American laws on Canadian companies which happen to be branch plants.**

As this sketchy summary shows, Minifie covers a lot of territory. He examines the military, diplomatic and economic posture of Canada; and he comes to the conclusion that, under each head, Canada is now subservient to the U. S. and has lost all initiative.

It's the Minifie view that, in accepting this subservience, Canada is not defending its own terrain, not really contributing to the defence of the U. S. but accepting unnecessary risks and sacrificing the influence it might exercise, on the side of peace, among both committed and uncommitted nations. These are the grounds for his advocacy of neutrality.

The first reaction of many Canadians would be to use the tiresome, if plausible, cliché: "No country can be neutral in any future war." The examples of Belgium, Holland, Norway and the U. S. itself — neutral for about 50% of the duration of the two World Wars — may be cited to prove that any 20th century war is bound to engulf the whole of humanity.

But in fact Switzerland, Sweden and some other states maintained a neutral position in 1939-45; and the more important point is that, even if all countries are bound to be hurt (perhaps demolished) in World War III should it happen, this is no conclusive argument for taking sides before the hostilities have begun.

Canada, of course, has taken a side. The most conspicuous example of this partiality is the unified command of North American air defences under an agreement known as NORAD. An American general is in charge. A Canadian, Air Marshall C. Roy Slemon, is his deputy; but Minifie argues (and I think he's right) that it's unrealistic to think Canada possesses either equal rights in the use of the combined strength or a veto on any decision to start military action (perhaps "preventive" or, to use the new euphemism, "pre-emptive") from Canadian soil.

Slemon, says Minifie, "wouldn't last five minutes if it were thought that he would exercise acting command in anything but the American tradition: shoot first, ask later".

For all practical purposes, in short, Canadian defence is an auxiliary to American defence, and an auxiliary wholly under Washington's direction.

The reason for this arrangement was a theory about the probable strategy and direction of a Russian assault should the U. S. and the Soviet Union get into a war. The Russians, it was supposed, would attack with bombers over the North Pole. That is to say, they would have to traverse Canadian airlanes before reaching their American target; and under the Ogdensburg agreement of 1940, negotiated by Franklin Roosevelt and Mackenzie King, Canada is pledged to prevent any enemy of the U. S. from gaining access to American soil in this way.

But the advance of nuclear and ballistic science, according to Minifie, has destroyed the doctrine that the most likely Soviet offensive would be trans-Polar with bombers. The best military theory now is that unmanned ICBM's sent all the way from Russia, or intermediate missiles lobbed from submarines, would be the most effective method of knocking out the U. S. power of deterrence.

If this be conceded, the DEW line becomes a hopeless anachronism because nobody even pretends that it would have any value against ICBM's. The rest of the argument is that, as the military situation now stands, Canada no longer has any duty, or capacity, to be an interceptor — except in a way that would be highly disadvantageous to Canadians.

Canada might prove to be indefensible in a Russo-American war; but we might conceivably have immunity if we didn't commit the folly of allowing the Americans to use our country as a kind of stalking-horse or shield. By permitting U. S. missile bases on Canadian territory and by producing the nerve gases that are perhaps even more deadly than H-bombs (it will be news to most Canadians that this is going on) we simply invite the possible enemy to plaster our terrain with the worst weapons they have.

This will be all right, says Minifie, with Washington. **He writes, with feeling that reads as if it were close to anger, that the Americans would far rather see Saskatchewan ravaged than North Dakota, and have indeed set up an elaborate, world-wide system of foreign bases with the express purpose of attracting Soviet fire to anywhere else, including Canada, but their own homeland.**

This is, of course, not discreditable on the part of our neighbors. Anybody would rather fight a war 100 or 1,000 miles from home than on his own doorstep. The crux of the Minifie argument, as I understand it, is that Canada, by offering itself as buffer, front line or catch-all for stray bombs, neglects its own national interest, arranges for its annihilation rather than its defence, doesn't really contribute to the defence of the U. S. and, most important of all, loses the prestige and influence a neutral Canada might have.

Is neutrality a feasible proposition? Is it possible that the U. S., having decided that the use of Canadian soil is necessary for its own protection, would allow the Canadians to break away and go into business as a North American counterpart of Nehru's India? In short, could we get away with it?

Minifie has no doubts on this point. Of course the Americans would be horrified and scandalized, they would "jump out of their boots," but there would be no attempt at coercion of Canada, there would be no economic reprisals.

For one thing, Canada is much too good a customer and too good an investment field to be treated in an unfriendly way. For another, the Americans are concerned about their reputation in other continents, especially Latin America, and recognize that any overt attempt on their part to invade Canadian sovereignty would do them infinite harm south of the Rio Grande. (Of course they have invaded our sovereignty already; but with our consent.)

Minifie's conclusion, in brief, is that Canada should quit NORAD and NATO (which he regards as obsolete), make its own defence arrangements in future and set about discovering how useful it might be a truly independent nation.

This course of action, he thinks, would not involve taking a pacifist line, disarming totally, leaving the Commonwealth or even giving up the manufacture of weapons for the American market. Indeed, it seems to be Minifie's view (which I don't get) that a neutral Canada could, without compromising itself, sell more arms to the U. S. than at present.

The groundwork and basic assumption of the whole argument, of course, is that U. S. foreign policy since 1945 has been less than wholly admirable. It's the Minifie thesis that the U. S., in becoming an imperial power which it unquestionably is, has also become a little arrogant and has lost its voice as the greatest advocate of peace and tolerance. It is also implied by Minifie that a Russo-American war, far from being inevitable, can be prevented, perhaps by the "good offices" of third parties.

Canada, suggests Minifie, can now assume the role of peacemaker; but only as a nation whose independence is above suspicion. As a satellite, we haven't a chance of making the impression, and exercising the good influence, that are within our reach.

Minifie's view appears to be that by merely casting off military alliances and commitments we can attain total freedom. Though he devotes a lot of space to the commercial facts of Canadian life, he has no suggestions for getting rid of economic satellitism; and this may be a weakness of his book, regarded as a work of advocacy.

But it is certainly a challenging performance and should stir Canadians to a close study—a "re-appraisal" as Dulles called it — of their place, destiny and utility in this confused world.

Peacemaker or Powder Monkey, by James M. Minifie; McClelland and Stewart, Toronto; 174 pp.; $3.50.

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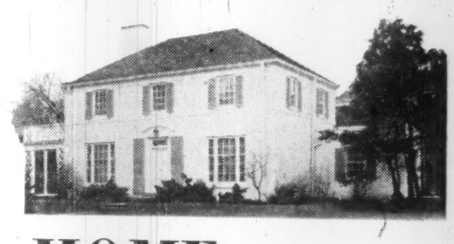

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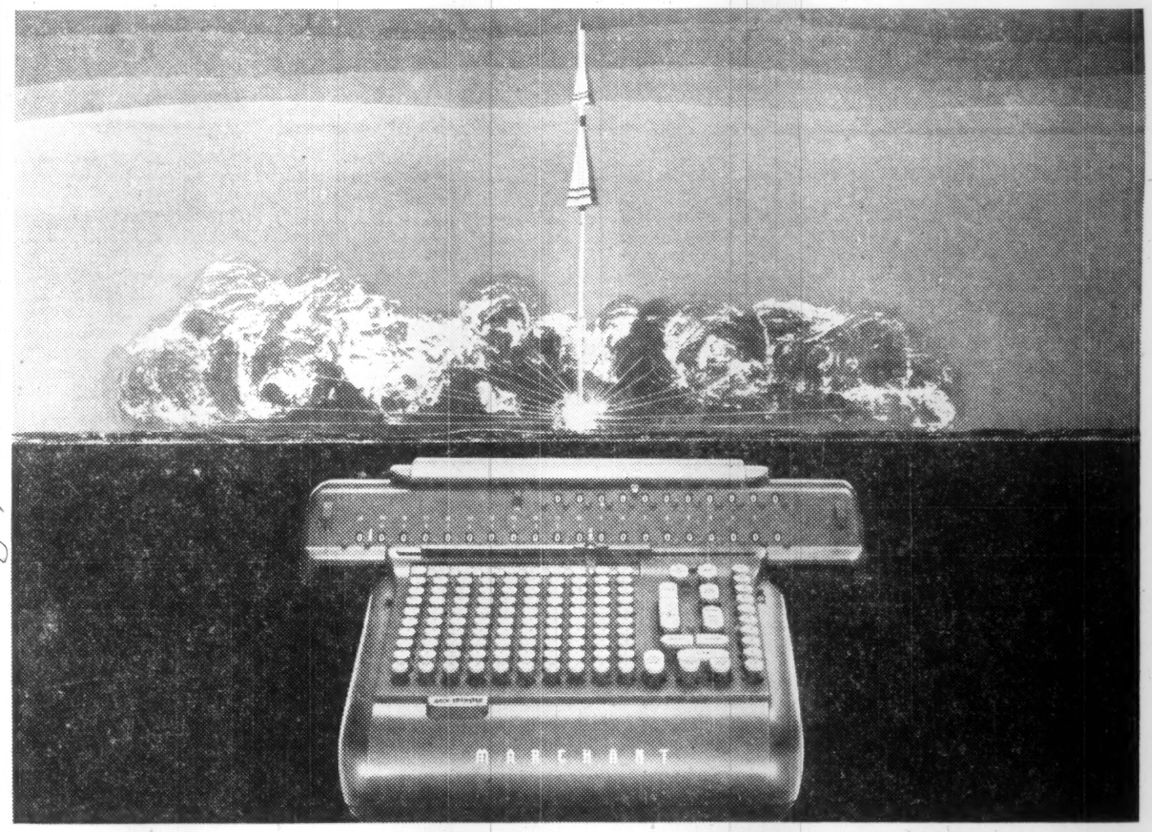

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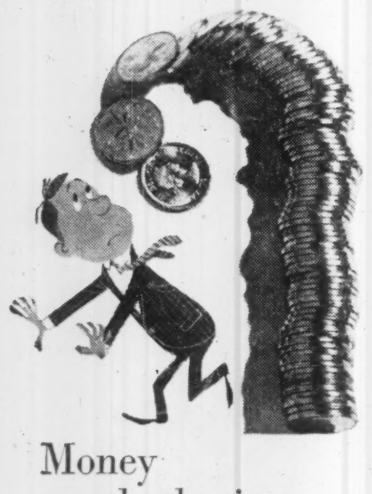

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Company Reports

Financial

ALL-CANADIAN FUNDS, Vancouver, net income for 1959 amounted to $801,121 ($398,619 in 1958).

Combined assets of the two funds (All-Canadian Dividend Fund and All-Canadian Compound Fund) of $24.6 million were $6 million higher than the 1958 year end figure of $18.6 million.

Assets of the compound fund comprised 54% of the combined total at Dec. 31, 1959 and those of the dividend fund 46%.

Net purchase of shares were more than $7 million. Number of shareholders increased by 3,000 to almost 10,000.

ALL-CANADIAN DIVIDEND FUND
CONDENSED INCOME ACCOUNT

Years Ended Dec. 31:	1959	1958
Total income	$920,770	$469,407
Less: Oper. exps.	119,649	70,788
Net income	801,121	398,619
Inc. cr.▲	38,041	81,746
Prof. for yr. avail. for divds.	859,162	480,365
Less: Divds. paid	945,002	612,969
Deficit for year	85,840	132,604

▲Portion of issue price of new shares transferred to surplus to equalize divds.

CONDENSED BALANCE SHEET

As at Dec. 31:	1959	1958
Cash, etc.	$439,449	$526,309
Invests. mkt. val.*	24,245,342	18,073,763
Total assets	24,704,991	18,600,072
Accts. pay.	20,596	23,248
Divds. pay.		210,601
Capital stock	21,265,729	14,633,351
Realized surplus	2,092,923	1,893,492
Unrealized capital gain	1,325,743	1,839,380
*Cost	22,919,799	16,243,383
Net assets per sh.	$6.08	$6.10

ALL-CANADIAN COMPOUND FUND
CONDENSED BALANCE SHEET

As at Dec. 31:	1959	1958
Cash, etc.	$6,195	$97,319
Invests. mkt. val.*	13,588,800	8,389,030
Total assets	13,594,995	8,486,349
Capital stock	11,610,755	6,714,295
Reinvested inc.†	1,004,337	517,127
Unreal. cap. gain	979,903	1,254,927
*Cost	12,608,897	7,134,103
Net assets per sh.	$7.63	$7.36

Note—Investments consisted entirely of 2,235,000 shs. in 1959 and 1,373,000 shs. in 1958 of All-Canadian Dividend Fund.

†All income reinvested: such net income amounted to $487,210 in 1959 and $243,590 in 1958.

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BARRON E. CLARKE

Mr. R. J. Campbell, President, Robert J. Campbell & Son Limited, announces the appointment of Mr. Barron E. Clarke as Vice-President and General Manager. Mr. Clarke had previously been associated with the Kelvinator Sales Corporation as Manager, Special Products Division. He is well known in the Dairy Industry both in Eastern and Western Canada, and brings a wealth of experience to this Company.

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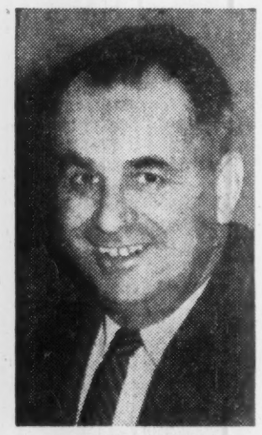

VICTOR MAROIS

The Norwich Union Life Insurance Society is pleased to announce that the General Manager's Trophy has been awarded to Mr. Victor Marois, Branch Manager of the Quebec Branch, 100 Youville Street, Quebec City. The trophy is awarded annually to the branch with the best record for proficiency in all phases of branch operation. Mr. Marois joined the Norwich Union Life Insurance Society in April of 1948, and assumed the managerial position of the Quebec Branch in May of 1958.

The Outlook

(CONTINUED FROM P. 1)

January and mid-February. And unemployment shot above year-earlier levels, despite the fact over-all business activity is currently much stronger than it was in the winter of 1959.

Job-holders at mid-February totaled 5,663,000, almost unchanged from a month before. **But unemployment climbed from January's 504,000 to 555,000, bringing the proportion of job hunters in the labor force up to 8.9%—or as high as it was at the worst of 1959.** A year earlier there were 537,000 unemployed or 8.8%.

One oddity in the new February figures: Four fifths of the increase in job-seekers took place in Quebec. But no evidence can be found of any special distortion and the statisticians are sticking by their figures.

What's particularly worrisome about the February figures is the fact that employment is not forging ahead as strongly as might be expected. Manufacturing employment has been leveling off for the last three months. Employment in construction, which started the fall-winter season above year-ago levels, has now fallen well behind last year.

Manufacturing, in short, has not provided the extra jobs to make up for reduced government support of housing. **Yet it should have,** if the business cycle is really moving upward, employment experts say.

Some informed observers believe lower construction accounts for lower employment in manufacturing, too. They say its effects could have worked back to a wide range of manufacturing industries from the simplest wood-working firms to the makers of bricks, glass and even household appliances.

One reason for the slackness: Relatively stable prices provide no incentive for business to accumulate stocks. The most bearish interpretation of the figures is this: In view of existing over-capacity in many important industries, it will take a long and protracted increase in demand to make more jobs—whether the new demand stems from exports or domestic markets.

* * *

Recent trends in bank loans and interest rates also point to sustained rather than surging economic activity in 1960.

The chartered banks now have considerably more elbow room to meet loan requirements than they did at year-end—and according to Governor of the Bank of Canada James Coyne, they had some room then too. "At year-end," he states, "the banks were in a position to facilitate a moderate degree of expansion in the total volume of commercial loans."

Since that time, the banks' lendable resources have advanced by some $300 million. As a group, the banks have added to their portfolios $100 million in government bonds since the beginning of the year; they have about $150 million in treasury bills above minimum needs—and about a $50-million cash surplus.

Bank loans to individuals and to business have declined by some $32 million since the beginning of the year. Total loans have declined in this period about twice as much as might be expected from seasonal reasons alone.

Part of this is due to the continuation of selective lending policies. Part, too, may be due to an unnecessary apprehension on the part of would-be borrowers.

But in large part, less pressure on loans reflects rising liquidity throughout the business and financial community. Profits are, on the whole, good. Inventory building is moderate—in the fourth quarter, for example, inventories remained almost unchanged. Capital spending hasn't yet begun full force.

To a number of business planners, this indicates that the boom's period of fastest-paced growth is over.

Recent declines in short-term interest rates also reflect the greater liquidity that exists in the business community. The yield on 91-day treasury bills, for example, dropped from 4.57% at March 3 to 4.34% March 10 to 4.02% March 17. It's very likely that this week's yield may be down to 3.85%—a level not seen for about a year.

Easier money and declining yields in the U. S. are having a big impact in Canada. Members of the Canadian banking community expect Federal Reserve moves to ease up on U. S. credit will continue—but expect monetary authorities in both Canada and the U. S. will keep long-term interest rates close to current levels.

One banker's forecast this week: "The cost of short-term borrowing in Canada will rise again over the spring and summer but it won't get back up to mid-1959 highs. No likelihood of any decrease in the chartered banks' lending rates."

U.S. Asks Waterways Tax It Could Hit Canada Later

(CONTINUED FROM P. 1)

user charges is to get this money back for the U. S. Treasury.

Nothing will be done on this matter in this session of the U. S. Congress, but it likely will be brought up next year.

In the horse trading that goes on as legislation passes through the congressional wringer, it is possible that the Congressmen might pass a law calling for tolls instead of a fuel tax as the best way to write off the cost of federal improvements to the inland waterways.

Supporters of this approach say it is fairer than a general fuel tax.

Fearing such a development, Braxton B. Carr, president of **American Waterways Operations Inc.,** warned in a statement that such tolls "could be the first step in a round of transportation rate increases, which would add to the inflationary pressures already at work in the economy".

He vigorously opposes the proposed user charges.

"User charges should be imposed wherever transportation uses federal facilities," the transportation report says.

"All groups of users should, as an ultimate goal, pay their fair share of operation and maintenance costs, as well as of new federal investment and interest.

"Rates should start low if there are none now in existence and should scale up over a period of years."

Our World's Fair Chances Looking Lots Better Now

By LESLIE WILSON

OTTAWA (Staff) — Canada's chances of getting approval for a Montreal world fair in 1967 are considered here to be "fairly good", despite competition from Austria, Russia and the U. S.

The fair would be part of our centennial celebrations.

The Canadian application will be considered at Paris May 5 by the International Bureau of Exhibitions, a 26-country international body of which Canada is a member.

The bid will meet this competition:

- **An Austrian** application to hold an international world fair at Vienna in 1967.
- **A Russian** bid to hold a 1967 Moscow world fair.
- **New York City** plans a world fair in 1964.

Both Russia and Austria are members of the IBE and their applications will compete directly with the Canadian.

The U. S. is not a bureau member. This means:

- **The Americans** are free to hold their fair without IBE approval.
- **If they do** hold it without approval, it won't likely be "recognized" by countries who are members of the IBE.
- **The U. S. will** have no say in whether the Canadian bid is accepted.

The main opposition to the Canadian application will likely come from Russia.

The Austrians are reported, unofficially, to be ready to withdraw their bid in favor of Canada because the Vienna fair would not be tied to a particular event and could be held in another year.

The Russians are likely to press their application because the Moscow fair would commemorate the 50th anniversary of the revolution.

The hope here is that the IBE will approve the Canadian fair over the Russian and withhold recognition from the American.

Normally, the bureau tries to separate world expositions in the same geographic area by more than six years.

If the bureau withheld recognition of the New York City fair, most countries which are members of the bureau would not likely exhibit at it officially.

Two fairs would in fact be held within the same geographic area within three years, but the Canadian would get more international support.

The Canadian bid was considered at an IBE meeting early this month, but a decision was withheld.

Delegates who attended the meeting must report back to their governments for instructions.

Why Life Insurance Firms Linking with Mutual Funds

(CONTINUED FROM P. 1)

the manner in which mutual fund shares are sold.

A close operating link with the mutual funds could give life companies a chance of ensuring that the proper life insurance requirements of the mutual fund share buyer are not being ignored, National's vice-president and managing director, John A. Rhind, says.

There is a danger that they may be sold in such a manner as to mislead the buyer into believing that mutual fund shares are a desirable substitute for life insurance, he contends.

Periodic savings plans, based on equity investment and permanent life insurance plans, are complementary to each other, both sides in the new partnership believe.

Plans are now being made whereby the corporate integration will result in broader service to the public from both organizations, said Mutual Funds' president A. K. G. Reid.

Details of the new programs are not yet available, but it is understood that they are being worked out at first with an eye on group business.

Emphasis would be on the smaller type of pension fund in which the employer's contribution, for example, might be placed in equities and the employees' part in fixed dollar investments.

This would not constitute a complete variable annuity since the employee, on retirement, would receive a fixed annuity, a National Life spokesman said.

Individual plans have not yet been designed.

In addition to the new latitude given to their pension fund schemes by the tie-in with the three mutual funds, National Life says it considers acquisition of the new interest to be a sound investment of policyholder funds.

(The mutual fund management companies in the U. S. have had a spectacular earnings history in recent years.)

At Dec. 31, 1959, net assets of the funds totaled $24.3 million, 32.3% higher than a year before.

H. R. Lawson, president of National Life, has been elected to the board of governors of the three funds.

Rhind has been elected a director of Mutual Funds Management Corp., and it is contemplated that Reid will join National's board at its next meeting.

Dividend Changes

ANGLO-CANADIAN OILS LTD. (BRANDON) — Common, 50c plus 25c extra, payable June 1, to holders of record May 1; ex-dividend April 27. Total payable to date in 1960, 50c plus 25c extra; total paid to same date in 1959, 50c; total paid in 1959, 50c. Recent price: $25.50.

CANADIAN DRAWN STEEL—Preferred, 15c plus 19c participating extra, payable April 15 to holders of record April 1; ex-dividend March 30. Total paid or payable to date in 1960, 30c plus 19c participating extra; total paid to same date in 1959, 30c plus 10c participating extra; total paid in 1959, 60c plus 10c participating extra. Recent price: $12.

Common, 25c payable April 15 to holders of record April 1; ex-dividend March 30. Total payable to date in 1960, 25c; total paid to same date in 1959; nil; total paid in 1959, 65c. Recent price: $17.

GREAT EASTERN OIL & IMPORT—Common, 50c payable March 25 to holders of record March 16. Total payable to date in 1960, 50c; total paid to same date in 1959, 60c; total paid in 1959, 60c.

ZELLER'S LIMITED—Common, 35c payable May 2 to holders of record April 1; ex-dividend March 30. Total paid or payable to date in 1960, 65c; total paid to same date in 1959, 60c; total paid in 1959, $1.20. Recent price $32.

114 Stocks Yield Averages 4.80%

The average yield on 114 dividend-paying stocks on the Toronto Stock Exchange, as compiled by **Moss, Lawson & Co.,** on the prices of March 21 was 4.80%, off .03% from the previous week.

The current yield compares with 4.69% one month ago and 3.96% in the corresponding week last year.

Here is the yield by the various groups:

	Mar. 21 %	Week Ago %	Month Ago %	Year Ago %
Common	4.43	4.46	4.31	3.57
Pfd & A	5.46	5.46	5.43	4.74
Mining	5.49	5.55	5.38	4.60
Banks	3.66	3.69	3.60	3.00

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What may I deduct? . . . This is the first question that comes to mind when income tax returns are being prepared. Yet some income taxes are overpaid because the taxpayer is not aware of certain legal deductions.

To assist investors in making their income tax return, we have prepared a pamphlet explaining the **20% tax credit** on net dividends from taxable Canadian companies, and have listed the companies whose shares are *not* eligible.

The pamphlet also contains details of the **depletion allowance.** This amounts to between 10% and 20% on certain stocks. As many investors do not know about this particular deduction, we have listed the companies whose dividends qualify for this depletion allowance.

A complimentary copy of this pamphlet will be forwarded upon request. Write or telephone for

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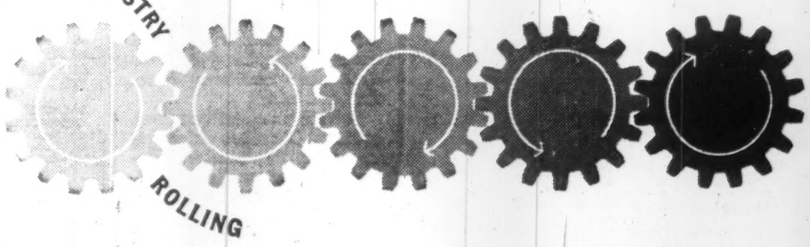

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9004

Freight Costs Hit Granite Industry

MONTREAL (Staff) — Loss of Western Canadian markets by Canadian granite producers is blamed on high freight rates and the long haul from eastern plants to the Prairies.

In a brief prepared for submission to the Royal Commission on Transportation, the Canadian Granite Industries Association says:

• **Minnesota producers** have established a foothold in the Prairies and are rapidly developing a sizeable market.

• **On the Pacific coast** competition is largely from European manufacturers who ship direct from overseas ports at $30 a ton against $42 a ton by rail from Montreal. In season, water rate from Montreal is $30 a ton.

• **The St. Lawrence Seaway** will bring European shippers of granite strongly into the Ontario and Lakehead markets.

While large deposits of varied granites extend over most of Eastern Canada, Quebec is the centre of the industry.

Principal plants are located at Montreal and in the Eastern Townships.

Red granite, quarried in Dryden County, Ont., is hauled to Quebec plants for processing.

"Freight rate increases for our product since 1948 have totaled 157.3%," said Glay Sperling, a director of CGIA and chairman of the Montreal building materials joint committee.

He cites two recent examples of substantial jobs lost on the Prairies.

▸ **The Law Courts Building** in Regina. Granite sub-contract went to a U. S. firm in Minnesota because of a $2,000 freight advantage.

▸ **Monarch Life Building** in Winnipeg, now out for tender. U. S. granites are specified.

The industry says it cannot retain the western markets although it is selling FOB plants at prices which were prevalent 10 years ago—and in some cases for less — despite substantial increases in labor and supplies.

There is a limited outlet for Canadian rough blocks in the Northeastern U. S. but the attitude of labor in that area practically bars the export of finished goods.

Burden of freight increases since 1948 has been aggravated by the minimum carload structure, says the Royal Commission brief.

A minimum of 60,000 lb. was established when granite was used as a structural member.

It is now used as a veneer, reducing weight required for building work.

"Increases therefore are very often doubled," says the association, "as freight has to be paid for less than carload lots—sometimes 40,000 lb. at the cost of 60,000 lb."

Among the industry's recommendations:

• **Exemption** from straight horizontal percentage increases.

"The railways should be required to pay special attention to long-haul traffic."

• **Abolition** of preferential "import rail rates" for overseas goods arriving at ocean ports for inland destinations.

• **Reduction** of minimum weight for carloads from Quebec points to Western Canada from 60,000 lb. to 36,000 lb.

Minnesota manufacturers can deliver by truck, directly from plant to construction site while eastern Canada producers can only deliver FOB railway destination.

Additional costs are crane facilities at sidings and truck transportation to sites.

St. Regis' Profits Here Set New Record in 1959

Sales and earnings of **St. Regis Paper Co. (Canada)** reached record levels in 1959, according to annual report of parent **St. Regis Paper Co.**, New York, N.Y. Figures are not published.

Sale by the Canadian subsidiary of its multi-wall bag plants for approximately $33 million to **Consolidated Paper Corp.** (**FP**, Jan. 9) gives it a profit of over $25 million, the report says.

Purchase price included 785,000 Consolidated shares, making St. Regis (Canada) owner of over 13% of Consolidated's outstanding stock. Provision is to be made for election of two directors representing St. Regis interests to the Consolidated Board.

A new company, **St. Regis-Consolidated Packaging Ltd.**, is to be formed to operate the merged multi-wall bag business and Consolidated's timber holdings. It will receive technical aid and supply of packaging equipment produced by St. Regis in the U. S.

St. Regis (Canada) advanced $2.5 million in 1959 to **North Western Pulp & Power Ltd.**, Hinton, Alta. (owned jointly by St. Regis (U. S.) and **North Canadian Oils**).

North Western's 430 tons per day bleached kraft pulp mill has produced as much as 550 tons per day; at year-end, daily production was exceeding designed capacity.

Net profit of St. Regis Paper (U. S.) for 1959 totaled a record $28.6 million, 30% above 1958's $22 million.

Drop Night Course At U. of Toronto

Cancellation of evening lectures in the graduate course in business administration at the University of Toronto has been announced by Dr. O. W. Main, new director of the School of Business.

Some 200 graduate students are now taking night courses leading to the degree of Master of Commerce. Program normally takes four years but may take longer.

Another 45 full-time students are taking the two-year day course.

Main succeeds Prof. T. C. Graham, who had asked to be relieved of his duties as director, to concentrate on teaching and research.

He also announced adoption of the name, School of Business, to replace the designation, Institute of Business Administration.

The new director criticized the "case method" of study used at many North American schools of business, including U. of T.

The Toronto school would stress education in the underlying social sciences, he said.

Four 'Hercules' Bought for RCAF

A $14 million order for four "Hercules" bulk cargo air carriers soon will be placed with **Lockheed Aircraft Corp.**, Defence Production Department officials said this week.

The new carriers will begin replacement of the RCAF's twin-tail C-119 transport.

The Hercules will cruise at 340 mph — 140 mph faster than the C-119; carry nearly twice the load (30,000 lb.) and double the range (4,000 mi.).

Canadair is already building a heavy transport for the RCAF, the CC-106.

It is not designed to carry the same heavy, bulk cargoes as the U. S. Hercules.

PROPORTIONING PUMP

The Technequip Co., Toronto, has designed and developed a precision chemical proportioning pump. All previous supplies of such pumps have been imported into Canada, the firm claims.

Shawinigan's Five-Year Plan: Spend $225 Million For Growth

MONTREAL (Staff)—Capital expenditures of **Shawinigan Water & Power Co.** during the next five years may total $225 million.

Next year, when the company expects to begin construction of new power producing facilities, Shawinigan plans to go to the public for new financing.

Shawinigan's President J. A. Fuller told shareholders this week that capital expenditures during 1960 will be only slightly higher than 1959's $17,451,000. But, he added, appropriations will considerably exceed the amount to be spent during the year with the result that actual expenditures in subsequent years will be very considerably higher.

Last year Shawinigan's earnings decreased 4.6% — a smaller drop than had been expected early in the year. Revenues from the sale of electricity increased 8.6%—more than expected.

Net earnings per common share were $1.45 compared with $1.62 in 1958.

"For 1960," Fuller said, "we expect that revenue from electricity sales will increase about 8% and that earnings per common share will increase moderately."

Consolidated net earnings of **Shawinigan Chemicals Ltd.** during 1959 were $1,938,000, compared with $865,000 the year before.

"It is anticipated that a further improvement in the earnings of the chemical company will take place in 1960," Fuller concluded.

Worth Noting

Financing agreements and changes in financing deals, major changes in capital, filing statements are listed as reported by the Toronto and Montreal exchanges, Ontario Securities Commission.

CONSOLIDATED DRAGON OILS, option installment of 200,000 shares at 25c a share together with subsequent installments extended for three months.

DEER HORN MINES, advance repayment of $10,000 on the $150,000 loan arranged last year with conversion rights waived to extent of the repayment.

GRASSET LAKE MINES, OSC prospectus filed in respect of underwriting of 250,000 shares at 10c a share with options granted on further 850,000 shares at 17½c to 30c share.

R. J. JOWSEY MINING CO., option on 50,000 shares at 61c a share has not been exercised and agreement terminated.

JUPITER OILS, TSE filing statement in respect of sale of properties for total of $802,500, including $376,000 cash and assumption of funded debt by **Medallion Petroleums**; sale of 300,000 shares of **Edmonton Pipe Line** to **Pamoil** for $270,000.

MULTI-MINERALS, option installment of 200,000 shares at 60c a share has not been exercised and agreement terminated.

MURRAY MINING CORP., listed on TSE March 18, ticker symbol "MUR".

ROTHSAY MINES, OSC prospectus filed in respect of underwriting of 50,000 shares at 25c a share.

SAND RIVER GOLD MINING CO., TSE filing statement in respect of underwriting of 200,000 shares at 10c and 200,000 shares at 12½c with options granted on 600,000 shares at 15c to 25c a share; acquisition of option on 46 claims in NWT for 100,000 shares (90% pooled) and $40,000 to be spent on exploration. If exercised company will reorganize on 1-for-4 share basis and issue 960,000 new shares (90% pooled) in full payment.

Approve Licences For Montreal TV

MONTREAL (Staff) — The Board of Broadcast Governors has approved applications to operate two "second channel" TV stations in the Montreal area.

Recommended for licences were:

• **Canadian Marconi Co.**, (English-language).

• **Paul L'Anglais Et Associés**, (French-language).

In reaching its decision, the board turned down applications by **Mount Royal Independent Television Ltd.** and a partnership of radio station **CKVL**, Verdun, and **United Amusement Corp.**

The Board's recommendations now go to the federal cabinet for approval.

Canadian Marconi owns and operates Canada's oldest radio station, CFCF. **Provided there is no hold-up in obtaining antenna facilities,** company expects to be on the air Jan. 1-15 next year.

The L'Anglais group includes a number of well-known Canadians including Gratien Gelinas, director of Comedie Canadienne.

President and general manager is J. A. DeSeve, founder of **France Film.**

Quoddy Bay Plan Due for Hearing

The proposed Passamaquoddy tidal power project in New Brunswick and Maine will come up before the International Joint Commission again April 22 at Calais, Me.

Those wishing to appear at the hearings have been asked to get in touch with Sumner Pike of Lubec, chairman of the Maine Governor's Committee on Passamaquoddy Tidal Power Development.

The commission's announcement said the Calais hearing would pay special attention to the suggested alternative auxiliary power sources.

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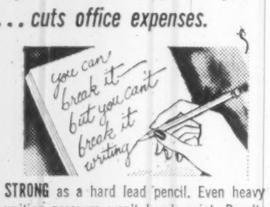

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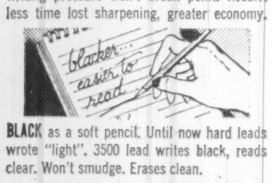

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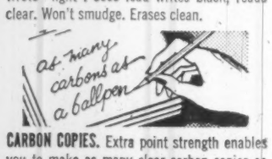

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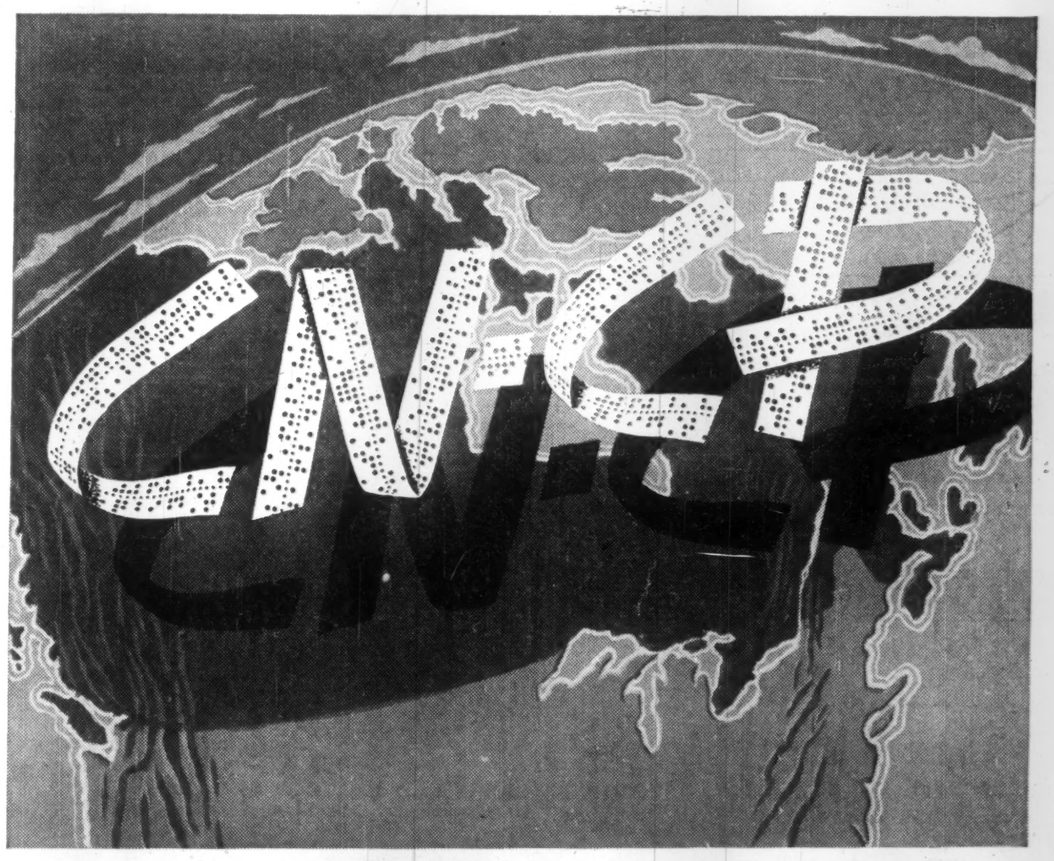

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Chicago 'Water Steal' Ready for New Airing

From Our Own Correspondent

WASHINGTON — The Chicago "water steal" gets an airing in the U.S. Senate next week.

The Senate Foreign Relations Committee will discuss the proposal to divert an extra 1,000 cu. ft. of water per second out of Lake Michigan into the Chicago sanitary district.

Illinois Congressmen have been pressing for an early hearing by the committee, but they lost their battle because of the press of more important business for the Foreign Relations Committee.

Chairman Senator J. William Fullbright, who is not at all anxious to get his fingers mangled in this politically and diplomatically explosive issue, says the committee may decide whether or not to hold public hearings.

Since this session of Congress is a short one because of the presidential campaign and the nominating conventions, time is fast running out on the "water steal".

The advocates will have to do an impressive selling job on the committee to force the proposal out onto the floor of the Senate in time for action by this Congress.

Most observers don't think there will be time enough left to do this, although the Illinois supporters of the diversion scheme are a persistent breed.

In addition, this is an election year and thus the "water steal" could become an election issue.

With so much business to do in the short space of time between the end of March and early July when Congress will quit, there seems less than a 50-50 chance for any serious Senate floor consideration.

One reason:

Opponents of the diversion scheme have made it plain that once again they would mount a filibuster to ban passage.

There was time enough for such a filibuster last year, but time is short now and the Senate leadership would not likely be happy about seeing such a time-consuming talkathon, especially in view of the delays caused by the civil rights filibuster.

Canada remains bitterly opposed to any diversion from Lake Michigan on the grounds that it would lower the levels of the Great Lakes.

This, in turn, would cause lighter loading on ships and hence costlier shipping.

The Canadian opposition has played a major role in preventing passage of the "water steal" which already has been approved by the House of Representatives.

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Americans Asked To Help Census

The U. S. Census Bureau is asking U. S. citizens outside the U. S. for help in making its census count for 1960.

Citizens abroad are asked to fill out census forms available from the U. S. consular office nearest their residence.

When completed the forms are to be sealed, for privacy and returned to the consular office for forwarding to the Census Bureau.

This is the first time the Census Bureau has attempted to include such a comprehensive overseas survey in the general census.

Bona fide tourists are not subject to this overseas census, which is to begin April 1.

List Depletion Allowances On Investors Income Taxes

Holders of dividend-paying stock of a large number of producers of gas, oil and certain minerals in Canada may take a 10%-20% credit on their income tax returns.

This year, however, the number of such stocks is reduced.

To be eligible for depletion allowance, dividends received in 1959 must have been paid by a Canadian company whose operations are carried out primarily in Canada.

(In previous years, depletion allowance could be claimed against dividends received from companies operating either in Canada or abroad, as long as 50% or more of its total income was classified as mineral profits.)

Dividends received from the companies in the accompanying list may be reduced by the percentage indicated, before being added to total income against which taxes are payable.

The list was prepared by **FP** from individual lists published by Toronto investment dealers **Walwyn, Stodgell & Co.** and **Gairdner & Co.**

"The Income Tax Department should be consulted in regard to less well known companies, particularly private companies engaged in business in Canada," Walwyn, Stodgell points out.

Here is the list:

	%
Algom Uranium Mines	20
Algoma Steel Corp.	*15
American Nepheline	20
Anglo-Huronian	20
Anglo-Newfoundland Dev.	†10
Asbestos Corp.	20
Aunor Gold Mines	20
Barymin Explorations	20
Bralorne Mines	20
Campbell Red Lake Mines	20
Canada North-West Land	15
Canadian Pacific Railway	10
Cassiar Asbestos	20
Cochenour Willans Gold	20
Commonwealth International	10
Consolidated Denison Mines	20
Cons. Discovery Yellowknife Mines	20
Cons. Mining & Smelting	20
Dome Mines Limited	20
Dominion Royalty	20
Elk Point Gas Limited	20
Falconbridge Nickel Mines	20
Giant Yellowknife Gold	20
Gunnar Mines Ltd.	20
Hollinger Mines Ltd.	20
Highland-Bell Ltd.	20
Hollinger Consolidated Gold	20
Home Oil Co.	20
Hudson Bay Mining & Smelting	20
International Nickel	20
Imperial Oil Limited	10
International Nickel	20
Investment Foundation	15
Kerr-Addison Gold Mines	20
Labrador Mining & Exploration	20
Lamaque Gold Mines	20
Leitch Gold Mines	20
Macassa Mines Ltd.	20
Madsen Red Lake Gold Mines	20
McIntyre-Porcupine Mines	10
Mining Corporation of Canada	20
New Dickenson Mines	20
Noranda Mines Ltd.	15
Normetal Mining Corp.	20
Northwestern Utilities	10
Pamour Porcupine Mines	20
Paymaster	20
Preston East Dome Mines	20
Pronto Uranium Mines	20
Quemont Mining Corp.	20
Reeves MacDonald Mines	20
Renable Mines Ltd.	20
Royalite Oil Co.	20
Sigma Mines (Quebec) Ltd.	20
Sylvanite Gold Mines	20
Teck-Hughes Gold Mines	20
United Keno Hill Mines	20
Upper Canada Mines	20
Ventures Ltd.	20
Waite Amulet Mines	20
Western and Texas Oil	20
Yellowknife Bear Mines	*15

*Not official but believed correct.
†Allowed on Jan. 6 dividend only.

Canadian shareholders may deduct from their income tax 20% of the dividends received from Canadian firms operating chiefly within Canada's borders.

This 20% is calculated on the amount remaining after deducting carrying charges and depletion allowances.

Dividends from companies operating principally in foreign countries are not eligible for this tax credit.

Here is a list of some companies in this category, sometimes thought to be Canadian, whose dividends are NOT eligible for this 20% dividend tax credit:

Admiral Corporation
Andian National Corporation Limited
Associated Telephone & Telegraph Co.
Bawater Corp. of North America
Brazilian Traction, Light & Power Co.
Brown Company
Bulolo Gold Dredging Limited
Capital Estates Inc.
Chrysler Corporation
Cinzano Limited
Continental Can Company Inc.
Electrolux Corporation
Fanny Farmer Candy Shops Inc.
Ford Motor Co. (U.S.)
General Dynamics Corporation
General Electric Co. Ltd.
General Motors Corporation
Hudson's Bay Company
International Milling Company
International Paper Company
International Petroleum Company Ltd.
International Power Company Limited
International Utilities Corporation
Johns-Manville Corporation
Loblaw Inc.
Mexican Light & Power Company Ltd.
Minnesota & Ontario Paper Company
Molybdenum Corp. of America
National Lead Company
Pato Consolidated Gold Dredging Ltd.
Pend Oreille Mines & Metals Co.
Placer Development Limited
South American Gold & Platinum
Standard Brands Incorporated

Seiberling (Can.) Has Record Sales

Seiberling Rubber Co. of Canada, Toronto, has completely recovered from operating problems which caused losses in first half of 1958, annual report of parent **Seiberling Rubber Co.,** Akron, O., states.

Sales of the Canadian company in 1959 were up in about the same proportion as its parent's (14%), with new records achieved in sales and production.

Improvement was in the face of an extremely competitive replacement tire market — even more so than in the U.S., the report says.

Seiberling Rubber Co.'s net profit for 1959 was $1,191,019, 11% ahead of previous year's $1,070,089. Results of the subsidiary are not published.

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AST Moving To New Uses

MONTREAL (Staff) — The company that pioneered Canada's new AST sewage treatment method is going to branch into uses of the same technique in industrial waste disposal.

National Welding Co. of Montreal says it's interested in working with industrial firms to apply AST (Atomized Suspension Technique) toward solution of their waste worries, the use of waste products or the recovery of useful chemicals from wastes.

A number of other firms around the world are in this new field. All are licencees of the Pulp and Paper Research Institute of Canada, which developed the technique.

Interesting progress has been made in use of AST in industry for waste treatment and disposal and in productive processes (**FP**, Dec. 5).

Until now, National Welding's AST specialty has been in disposal of sewage sludge. It put in the world's first municipal unit at Beaconsfield, Que.

This unit has now been accepted by the Montreal suburb and National is pondering proposals for similar plants in other communities.

AST already is in experimental or commercial use for such diverse things as treatment of radioactive wastes and production of chemicals.

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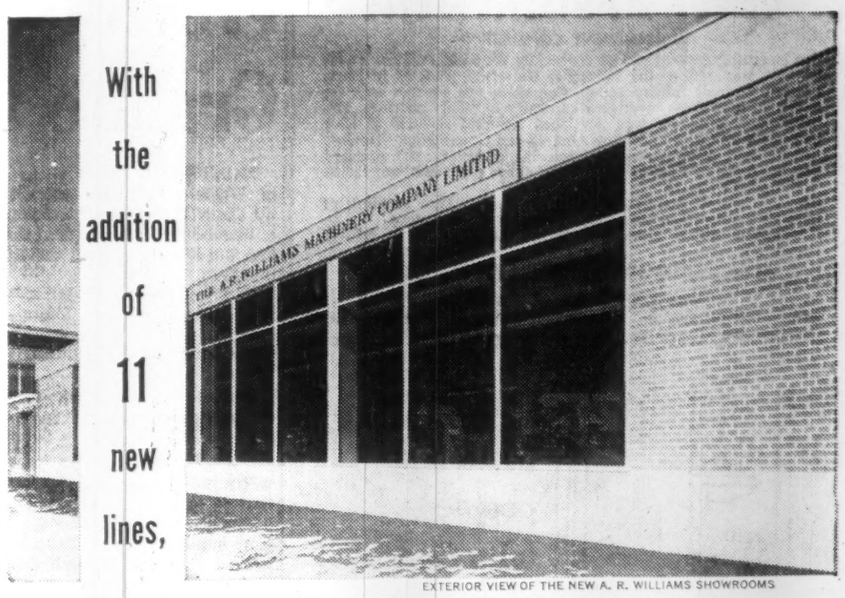

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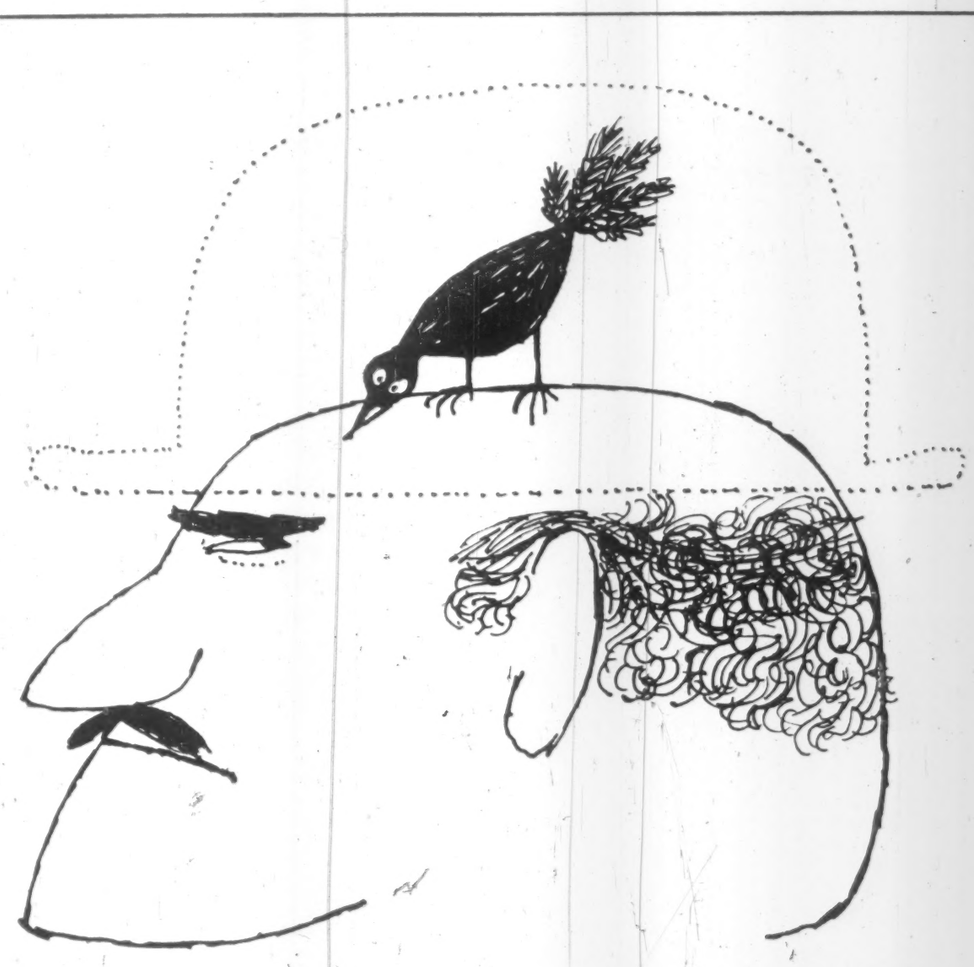

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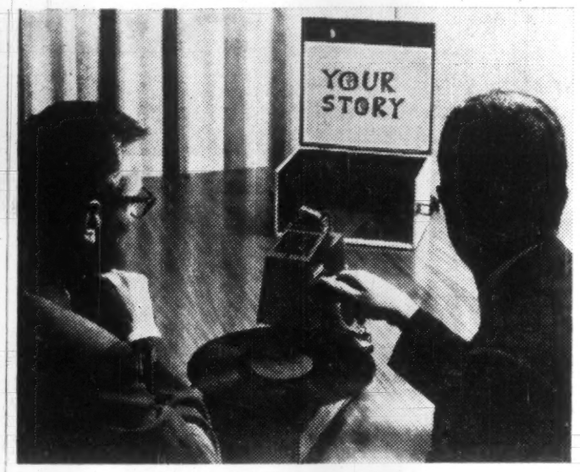

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ELECTRIC ERASER removes a mistake without blurring copies or soiling the typewriter with the dust of an India rubber, German maker says. The battery-powered eraser looks like a small flashlight. Rubber tips of different hardness can be interchanged for erasing various marks, such as colored or ordinary pencil, ball point pen or other inks.

* * *

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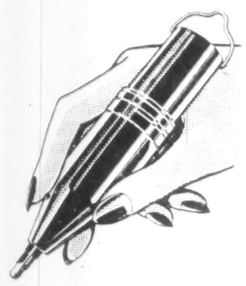

Electric Eraser

bath. Frame of the bath is enamel-finished steel tubing. This is covered with insulated double layer of vinyl that has a full length zipper. The heater, installed under a wooden chair, is said to provide fast, safe and intensive heat.

* * *

TEA, hot or cold, comes out of a new restaurant machine. By spraying hot water on tea leaves, the machine makes a tea concentrate, which it keeps hot. Valves, operated by push buttons, mix the concentrate with hot or cold water.

* * *

TIRE VALVE CAP has the correct pressure printed on its top. You don't have to remember the proper pressure for back and front tires to tell the gasoline-pump attendant when he checks your tires.

* * *

HOT CUP of coffee won't burn your fingers in a new disposable plastic cup. The 7-oz. cup is made of two plies of impact polystyrene, the outer ply being foamed to provide insulation from the heat.

* * *

SALES and training aid: Slide-film projector weighs only 10½ lb., in a two-tone luggage-style carrying case about 13 in. by 13 in. by 7 in. Inside lid of the carrying case becomes a shadow-box screen, for displaying color or black-and-white filmstrips. Or you can project on a conventional large screen. A matched speaker-amplifier combination plays 7 in., 10 in. or 12 in. records at 33 1/3 or 45 rpm.

* * *

SUCTION ACTION: Lifting attachment for fork trucks has four suction pads that are adjustable in two directions and can be operated individually. A safety reserve vacuum system takes over in case of engine failure.

* * *

NEW LITERATURE, Canadian **Allis-Chalmers Ltd.,** Montreal, has bulletin describing frame mounted pumps . . . Eighty-page study of the manufacture and erection of wood stave pipe from **Canadian Wood Pipe & Tanks Ltd.,** Vancouver . . . Truck cost record book is offered free by **International Harvester Co. of Canada,** Hamilton . . . **Towmotor Corp.,** Cleveland, Ohio, has 18-page booklet describing new fork lift truck which can operate in 6-ft. aisles . . . **Canadian General Electric Co.,** Toronto, has bulletins entitled "Halogen Leak Standards," "Leak Testing Small Sealed Pressurized Containers," and "New GE Round Chart Record-Controller."

Pin-Point Action Needed For Local Problems: Coyne

OTTAWA (Staff) — Complaints that Canada's less favored regions and smaller businesses suffer unfairly through policies of monetary restraint are tackled by J. E. Coyne, governor of the Bank of Canada, in his annual report.

He says it is certainly true that small businesses have a hard time competing for capital with large businesses, specially when demand is strong.

They have the same difficulty in getting labor and raw materials.

It is also true, he says, that Canadian-owned businesses are at a disadvantage compared with foreign-owned subsidiaries, which can get capital, research facilities and technical assistance from their parent companies.

The subsidiaries, he notes, also have the advantage of "tied markets or assistance in marketing".

The bank governor believes that something can be done about industries and areas and special categories like small business. But it cannot be done by monetary policy nor by general economic measures.

General remedies cannot solve particular problems, in fact.

But, adds Coyne: "There are no doubt various special measures which governments can take to reduce the various difficulties and disabilities of small business, and to mitigate the handicaps of Canadian enterprises in competing against foreign enterprises which operate through subsidiaries in Canada or send their goods into Canada.

"Similarly they can relieve the particular problems of production and development in specific industries and particular parts of the country and in the winter season.

"The necessity for pin-pointing action to deal with these problems has tended to be overlooked," says Coyne.

Monetary expansion and deficit spending. Coyne adds, not only cannot get at particular or local situations. They are just as likely to stimulate imports as Canadian production.

The way to deal with the specific problems, in Coyne's view, is quite different.

This is how he describes it: "A reduction in spending, an increase in saving, restraint in foreign borrowing, and the encouragement of structural changes in the Canadian economy to replace imports with efficient domestic production."

SIGN INDUSTRY MEET

Application of the sales tax to the sign industry will be a major topic this week at the Canadian Sign Manufacturers Association's annual convention in Hamilton. Sign manufacturers, who recently have protested sales tax application to the industry, are expecting some changes in sales tax legislation this year.

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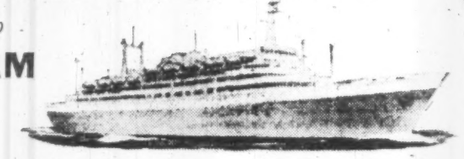

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POST TRAVEL BUREAU

Where to go—how to go—where to stay

A Canadian's Notebook In the Tourist's Rome

By ROBERT L. PERRY

ROME

The early morning sun smeared long shadows across the Aereoporto di Ciampino, and the Italian spring smelled sweet and lazy.

We tried to stroll out of the plane with an air of worldly nonchalance, but the act flopped. We looked just like Canadian tourists.

A uniformed official solemnly collected our passports and walked away with an awkward armful of little blue books.

"He looks like a morality inspector with a pile of hot literature," someone said.

Italian law specifies that the Agenti di Pubblica Sicurezza must take away your passport for examination. You can't avoid it.

* * *

A gypsy girl, 18 or 19 years old, approached me in the busy street outside my hotel. She carried a tiny, screaming baby in her arms.

"Please, signore, monee for my babee?" Her dark eyes pleaded.

I gave her 100 lire, and she hurried away. The hotel doorman looked at me disgustedly.

"She's a beggar and a cheat," the doorman said.

"But what about the baby?"

"She rents it by the hour from its real mother."

"The poor little thing was crying," I replied, on the defensive.

"She pinched it on the bottom when she saw you coming," he explained.

* * *

This ochre-colored beehive astride the Tiber is more than a religious shrine, an art museum or a monument to western civilization. It's a living city, with a light heart.

You will find more facts about its glories in your home town public library than you will in the streets of Rome itself.

Don't come for an education; approach its treasures in the spirit of modern Rome.

"Bring your heart, soul and sense of humor," I wrote, "and you'll take back memories that will keep forever."

* * *

Beware of your emotions as you approach the Fontana di Trevi, particularly if the late-night mists drift past and the dampness glistens on the cobblestones.

If you throw coins into this beautiful fountain, the local legend says, you will be sure to return to Rome some day.

We walked across the dark square and down the shallow steps to the pool. The sound of its waterfalls filled the empty streets.

Following the custom, we turned our backs to the fountain and threw three coins over our shoulders. They splashed softly.

Later I discovered that, in my fit of romanticism, I'd tossed in a 500-lire piece — the price of a reasonable steak.

"I know how the legend works," I noted. "If you throw enough money into the fountain you can't afford to go home."

* * *

One recurring sound in Roman commercial life is the plaintive cry, "Spicci".

It's slang for "spiccioli" and it means change — small coins for big bills.

For a taste of light-hearted adventure, climb aboard a Roman streetcar and give the conductor a 1,000-lire note (about $1.60).

He rolls his eyes helplessly and pleads "Spicci".

The word crackles up and down the crowded tram like an electric current. The passengers laugh and shout excitedly, swapping coins and comment, until somehow the correct change appears in your hand.

In a small restaurant I handed the waiter a 5,000-lire note to pay a 2,500-lire bill. I could see it coming. He looked at the bill; he looked at me; he shook his head . . .

"Spicci!"

A lovely young lady, with a purse full of coins, saved the day.

Perhaps all the loose "spicci" in Rome lies at the bottom of the Fontana di Trevi.

* * *

A thunderclap of applause shook the Anticamera Pontificia, echoing from the high ceiling and the enormous Renaissance murals.

His Holiness, borne in the papal chair, smiled gently from side to side and gave his blessing to the crowd, as his procession slow-marched down the aisle.

The applause rolled along with him like a wave of the sea.

A meek little nun near me clapped wildly, and stared blissfully up into the Holy Father's plump, pleasant face.

"Viva il Papa!" she cried in a tiny voice.

A Mexican visitor stood on his chair to get closer to the papal benediction.

* * *

Il turista misterioso!

Overheard in St. Peter's Square, beneath the largest temple in Christendom, seat of the Pope, in a city of 400 churches, on a bright Sunday morning:

"I've got to find a place to go to mass."

* * *

I was late for a party, and my taxi driver got lost in the forest of apartment buildings that sprawls across suburban Rome. He wheeled into a gas station.

"Via San Pantaleo Campano?" he asked.

The attendant gesticulated, delivered an impressive monologue, finally shrugged. The taxi meter just ticked.

We whirled around a plaza and pulled up in front of a brightly lighted local bar, followed the driver inside.

"Via San Pantaleo Campano?"

One customer leaped from his chair and fetched a street map, around which a small crowd soon gathered.

Everyone had something to say, all at once. Fingers jabbed at the map, tracing routes through half the city.

"The meter . . ." I interjected politely.

"Signore, **this man** says the street is very near, only a few blocks," the driver replied.

I nodded happily.

"But **that man,** signore, insists it is many kilometers distant, that way," he said, waving.

Everyone stood still, waiting for me to pass judgment.

"Back to the hotel," I said.

"Si, signore."

We all smiled and thanked each other warmly. The hotel-to-hotel fare came to more than 4,000 lire.

"The foreign visitor, when in doubt, will always find it the best plan to ask a policeman. Everyone else will want to help you in order not to cut a 'brutta figura' (to lose face)."

That's good advice. I found it — much later — in a fact sheet on Rome.

Italians relish good wines and liqueurs, but they drink surprisingly little.

Go easy on your drinking if you want to make a good impression.

At a seafood restaurant in Ostia, Rome's seaside resort on the Mediterranean, I ordered a second carafe of light white wine to wash down the remnants of my fettuccini and fried shrimps.

The waiter, mustache bristling, stared at me. Another? Yes. A whole carafe? Yes. He hustled off, shaking his head.

For dessert I ordered another carafe — and braced myself.

His eyes widened with real hurt. He delivered the carafe — and a pitying glare that Canadian waiters save for hopeless alcoholics.

* * *

In the broad Piazza dei Cinquecento a street hawker appeared at my elbow, beaming, keyed up for a fast session of haggling.

"Nice fountain pen? Only $5," he kicked off, in English.

"No."

"Lovely cameos? For you, $2. My father made them last night by candlelight."

"No."

"States or Canada?"

"Canada — and still no."

"Okay. For Canada, pen and cameos for $5." There was respect in his voice. This Canadian drove a hard bargain.

I stopped and faced him.

"Please try to understand," I said gently. "I don't want to haggle. I don't want the pen. I don't want the cameos. I wouldn't want them if you gave them to me wrapped up in a 1,000-lire note."

Whenever I close my eyes I can still see the horror and disbelief on his face.

* * *

A few personal comments in a serious vein:

• I flew to Rome with **Canadian Pacific Airlines,** via Lisbon. The big Britannia aircraft fly fast (less than 15 hours in the air, Toronto-Rome), and I found the service magnificent.

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• **On arrival in Rome** pick up a copy of the Canadian Embassy's book, "What's What in Rome." It's a mine of information for Canadians.

If you need help, you'll find the embassy staff friendly and very efficient.

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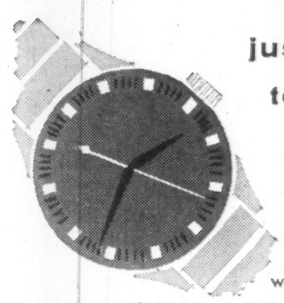

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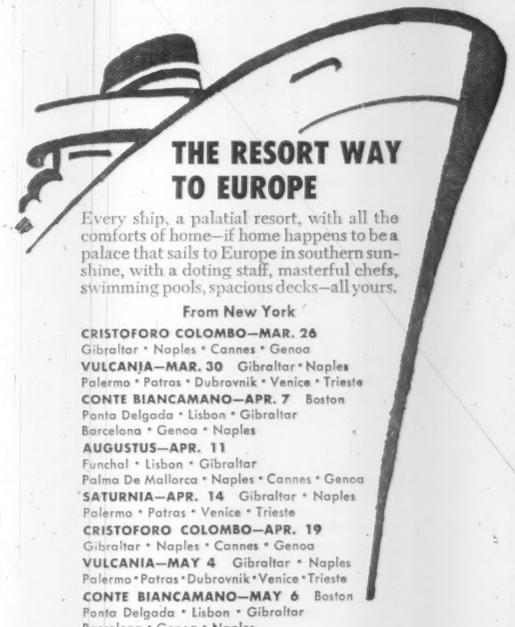

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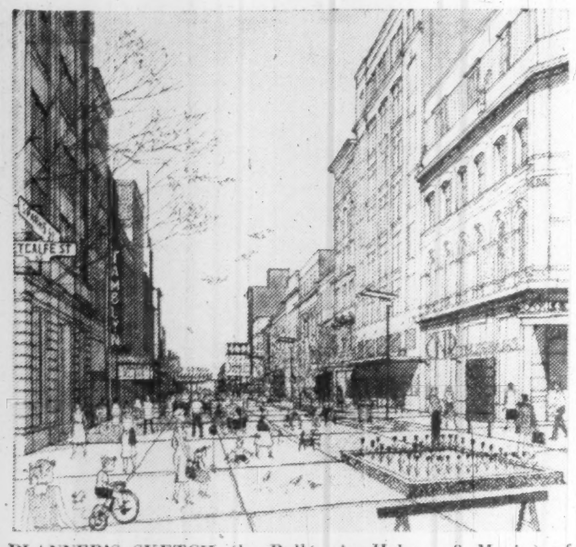
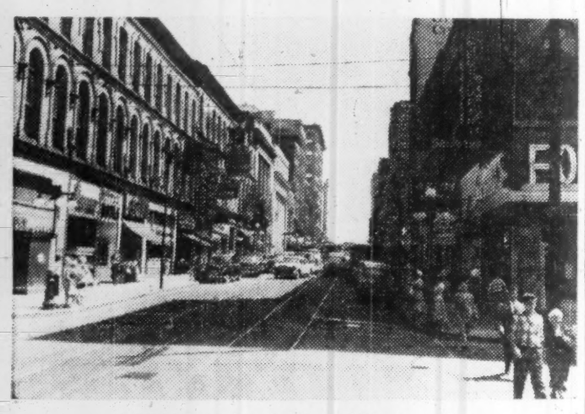


PLANNER'S SKETCH (by Balharrie, Helmer & Morin) of the proposed Sparks St. mall in Ottawa.



OTTAWA'S Sparks St. as it looks today.

'Closed Street' Shopping Mall First in Canada

By LESLIE WILSON

OTTAWA (Staff) — Ottawa's $30,000 plan for an experimental landscaped pedestrian shopping mall in the centre of the business district has cleared its last hurdle.

City council this week accepted a compromise cost-sharing plan.

Sparks St. Development Association, representing 70% of the merchants with businesses fronting on the three blocks affected, and the city, each agreed to pay half.

In addition, the city will spend $800 covering abandoned streetcar tracks.

Earlier, the city planned a much more elaborate coating and asked that the $4,000 cost be deducted from its $15,000 contribution.

The merchants' group, which would have had to make up the $4,000, dug in its heels; and, for a while, the scheme was threatened with collapse (**FP**, March 19).

Involved is a three-block stretch of Sparks St. west of the National War Memorial.

It will be closed to automobiles from Saturday, May 14, to Saturday, Sept. 3—except for fire, police and delivery vehicles.

As soon as the street is closed, the merchants' group will start painting and decorating, landscaping, building pavilions, laying-out sidewalk cafes. The mall will be ready in about three days.

Basically, the idea is to gain experience for operation of a permanent promenade, planned for Canada's Centennial in 1967. If the scheme works, it may be repeated every summer, or it could become permanent before 1967.

Sparks St. runs east and west. At the east end, the street runs into Confederation Sq. The next three streets to the west are Metcalfe, O'Connor and Bank, in that order. These will be left open.

The merchants who have been pushing the promenade scheme claim that by restricting the area to pedestrians, they'll do more business. This theory will be tested this summer.

Other problems:

- **Police and fire service.**

None of the decoration plans shuts the three blocks to vehicular traffic. Both police and fire vehicles will be able to reach any point in the mall area quickly—it is hoped.

- **Deliveries.**

Not all the Sparks St. stores have exits running completely through the blocks. Deliveries must therefore be permitted in the promenade area, but they will be restricted to before 10 a.m., and between 6 and 8 p.m.

- **Parking.**

Closing the area to automobiles will eliminate several hundred parking spaces and put pressure on nearby garages and lots. Time will tell whether these will be adequate to satisfy summer tourist parking demands.

Here are the decoration schemes planned for the three blocks, from east to west:

- **Confederation Sq. to Metcalfe.**

The entrance will be of pavilion-type with three 30-ft. flagpoles bearing Red Ensigns. The feature of the block will be a pavilion (tangerine-colored roof) to contain a model of how the "Ottawa of the future" will look.

One restaurant, the **Lido**, will set up a sidewalk cafe to accommodate 35 people. The city plans a tourist information kiosk.

- **The Metcalfe-to-O'Connor block** will contain a pavilion for concerts and fashion shows; a fountain with a 30-ft. plastic-lined pool, and another sidewalk cafe in the European style, **Sharry's.**

- **The O'Connor-to-Bank block** will contain a large children's play area and a display pavilion for merchandise. The Bank St. entrance will be similar to that at Confederation Sq.

The mall will be Canada's first, although Victoria plans a 2½-block permanent mall for the fall of 1961.

Napier Moore's Scratch Pad

FROM Corey Wilson, a former Canadian who has lived in Florida for a long time, comes a letter that says:

"The other evening, a Canadian friend and I got to discussing the early days of World War I in which we both served.

"He was living in Nanaimo at the time, and joined the Navy. He couldn't remember the details, but he recalled that the British Columbia government bought a couple of submarines built in the U. S. for a South American country, and when they were delivered it was discovered that they were useless — something to do with the type of torpedoes.

"I seem to remember that in Scratch Pad you once mentioned that you were living in Victoria, B. C., when the war broke out, and I wonder if you recall the circumstances?"

That's going back 46 years, and in the matter of specific details my memory may be a bit hazy.

When war came, the defences of the Esquimalt naval base and Vancouver Island were woefully weak.

Moreover, the transport of troops from the island to the mainland (bound for Valcartier) by sea presented a problem, in that naval escort vessels were not available.

The story as I heard it at the time was that the government of Sir Richard McBride learned that a Seattle shipyard had built but not yet delivered two submarines ordered by, I think, the Chilean navy.

Hurried negotiations resulted in the transfer of the submarines to British Columbia.

Unfortunately, too late, it was discovered that their torpedo tubes could only fire German type torpedoes.

I believe the submarines did escort ships carrying troops to Vancouver, but I doubt that they would have been much use in the event of an enemy attack.

* * *

NASSAU is confronted by a mystery. Who snitched a page from the Government House visitors' book?

Just inside the west gate of the Governor's residence is a small wooden hut in which the book reposes. It is some distance from the sentry who guards the portal of the house.

Public interest was whetted when an official communique from Government House requested that all visitors who signed the book on March 7 get in touch with the ADC.

For the page bearing their signatures had been "removed by an unknown hand."

One unofficial surmise is that it was torn out by an unscrupulous autograph hunter, two or three prominent movie stars being on the island at the time.

But at the moment nobody knows whether or not Gary Cooper, or Douglas Fairbanks Jr., or Elizabeth Taylor or Eddie Fisher signed the book.

* * *

ANOTHER Bahamian announcement has caused some consternation in certain circles.

On the door of the only lavatory in the House of Assembly building there is now a pencilled notice proclaiming that the facilities are for members only.

Heretofore the amenity has been used by House employees, policemen on duty, members of the press, and sometimes by visitors to the Assembly.

In moments of emergency the problem of where to go will be acute.

* * *

IN ENGLAND last year it was announced that the government was about to institute annual inspection of all cars beyond a certain age.

The scheme hasn't yet come into force, and U. K. automobile insurance companies are alarmed.

It appears that they have suffered considerable loss from damage claims involving old cars, particularly in cases wherein youthful drivers of decrepit rattletraps have been involved.

So they are considering a doubling or trebling of third-party insurance premiums.

The trouble is that an arbitrary ruling against cars more than 10 years old is going to cause a lot of hardship to innumerable Britishers who own cars which are old but which have been tenderly cared for and kept in excellent mechanical condition, and who can't afford to buy a new model or pay trebled insurance rates.

There are a lot of people like a friend of mine, a retired Colonial Service man who lives on a small pension.

Living in the country, he has a car 24 years old. Its mileage is only 25,000. Its body (of better steel than we get nowadays) and its working parts are in first rate shape.

I know because I drove it not long ago. Yet he would be penalized for hairbrained young nitwits who drive junkheaps.

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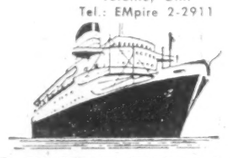
CARINTHIA	MAR. 25†	MAR. 26†	APR. 19-20, MAY 12-13	GREENOCK, LIVERPOOL
QUEEN ELIZABETH	MAR. 30, APR. 13, 27, MAY 11, 25	—	—	CHERBOURG, SOUTHAMPTON
IVERNIA	MAR. 31	APR. 1	APR. 27, MAY 20*	HAVRE, LONDON
MEDIA	APR. 1, MAY 6	—	—	LIVERPOOL
SYLVANIA	APR. 8†	APR. 9†	MAY 3-4, 26-27	GREENOCK, LIVERPOOL
BRITANNIC	APR. 13, MAY 11	—	—	COBH, LIVERPOOL
SAXONIA	—	—	APR. 14, MAY 11*	HAVRE, LONDON
PARTHIA	APR. 22, MAY 20	—	—	LIVERPOOL
MAURETANIA	MAY 3, 28	—	—	COBH, HAVRE, SOUTHAMPTON

*To Southampton, not London †Calls at Cobh, not Greenock



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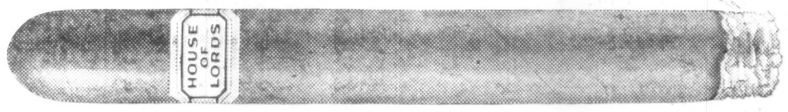

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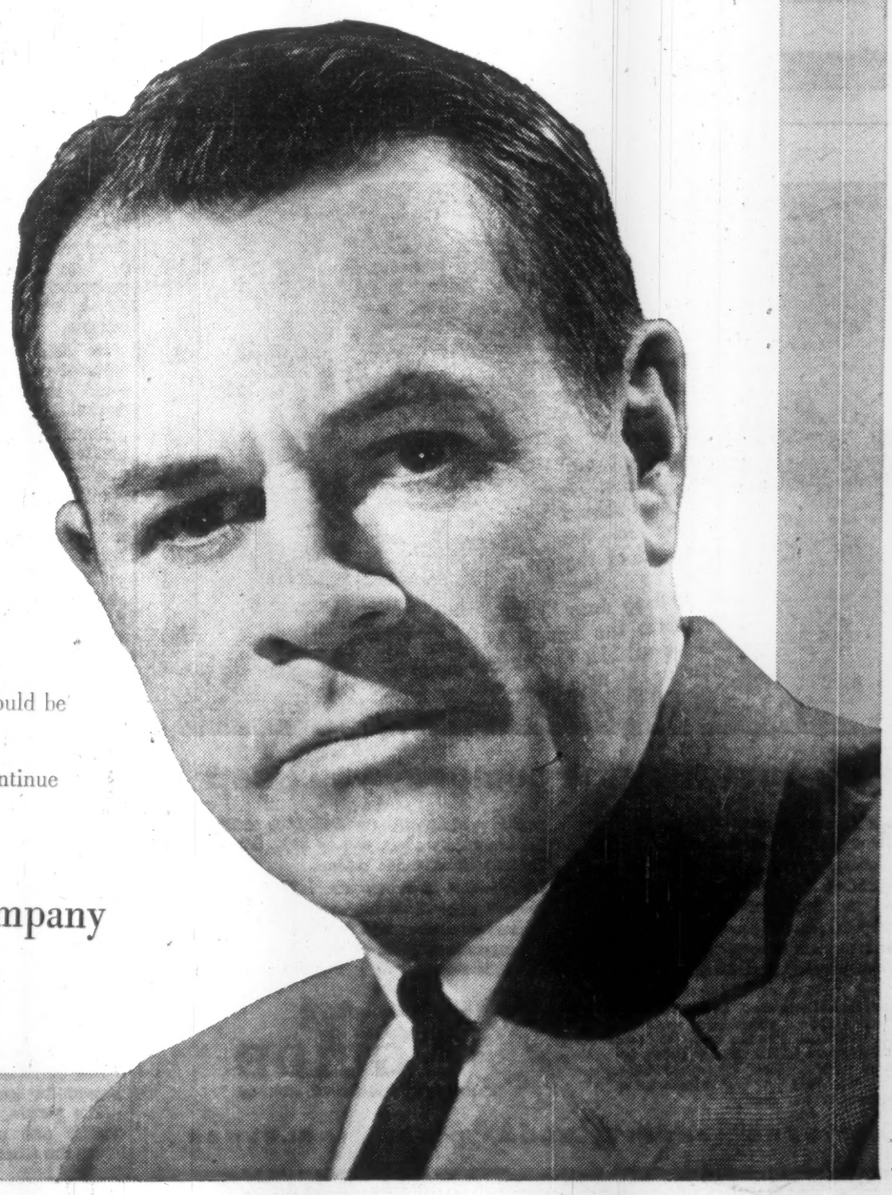

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Producers' Share Of the Gas Boom

Here's a list of the 56 gas producing companies that have signed long-term gas sales contracts with **Trans-Canada Pipe Lines.**

The table shows maximum annual sales under these contracts in the year 1962-63—the year contracted sales reach their maximum and level off for the remainder of the 25-year contract period. The second column shows actual estimated sales in that year. The third column estimates dollar revenue to the producers. Average price of gas to the producer is calculated at 12.49c per mcf.

Contracted Gas Deliveries to Trans-Canada Pipe Lines (Year 1962-63)

Contracted Gas Sales to Trans-Canada Pipe Lines	(mcf)		$
Amurex Oil Co.*	4,399,710	3,959,739	494,571
Arab Oils	97,090	87,381	10,913
B.A. Oil Co.	84,868,440	76,381,596	9,540,061
Bailey-Selburn	5,040,650	4,536,585	566,619
Barlow Development	149,650	134,685	16,822
Canex Gas†	22,998,795	20,698,915	2,585,294
Calgary & Edmonton	1,082,590	974,331	121,693
Canadian Superior Oils	8,942,500	8,048,250	1,005,226
Canadian Delhi*	30,710,370	27,639,333	3,452,152
Canadian Bishop	946,810	852,129	106,430
California Standard	28,368,530	25,531,677	3,188,906
Canadian Kewanee	1,975,745	1,778,170	222,093
Canadian Homestead	524,140	471,726	58,918
Canadian Seaboard	1,474,600	1,327,140	165,759
Canadian Oil Cos.	1,804,560	1,624,104	202,850
Canadian Pacific Oil & Gas	6,844,845	6,160,360	769,428
Calvan Consolidated	3,296,315	2,966,683	370,538
Canadian Chieftan	1,383,715	1,245,343	155,543
Canadian Export & Cree Oil	339,815	305,833	38,204
Canadian Husky	106,945	96,250	12,021
Cons. Mic Mac & Mayfair	736,935	663,241	82,838
Cree Oil	456,250	410,625	51,287
Crow's Nest Pass Coal	145,635	131,071	16,370
Fargo Oils	8,030	7,227	902
Great Plains Development	364,270	327,843	40,947
Honolulu Oil	1,930,850	1,737,765	217,046
Home Oil Co.	17,766,375	15,989,737	1,997,118
Hudson's Bay & Gas	26,009,170	23,408,253	2,923,690
Imperial Oil	5,644,725	5,080,252	634,523
Lincoln McKay Dev.	193,450	173,105	21,745
Mill City*	1,662,625	1,496,362	186,895
Midwest*	276,670	249,003	31,100
Marigold	97,090	87,381	10,913
Mobil Oil of Canada	8,062,850	7,256,565	906,344
Medallion Pete.	738,030	664,227	82,961
New Superior Oils	1,618,045	1,456,240	181,884
Omega Nat. Gas	155,490	139,941	17,478
Okalta Oils*	1,611,840	1,450,656	181,186
Ohio Oils	463,550	417,195	52,107
Pacific Pete.	1,780,470	1,602,423	200,142
Pan American Pete.	533,995	480,595	60,026
Provo Gas	20,367,000	18,330,300	2,289,454
Phillips Pete.	106,945	90,850	11,347
Plymouth Oil	315,725	284,152	35,490
Sun Oil*	4,869,100	4,382,190	547,335
Scurry Rainbow	528,885	475,996	59,451
Sohio Pete.	329,960	296,964	37,090
Shell Oil	533,995	480,595	60,026
Saskatchewan Power	8,395,000	7,555,500	943,681
Royalite Oils	414,640	373,176	46,609
Tidal Pete.*	1,956,400	1,760,760	219,918
Texas Pacific Coal & Gas	101,835	91,651	11,447
Tennessee Gas Transmission*	18,728,515	16,855,663	2,105,272
Texaco Exploration	1,451,605	1,306,444	163,174
Western Decalta*	1,868,435	1,681,591	210,030
West Canadian Oil & Gas	155,490	139,941	17,478
Group of Five‡	33,233,250	29,909,920	3,735,665

*Includes two or more participating companies.
†Canex Gas Ltd. is a wholly-owned subsidiary of Canadian Export Gas & Oil Ltd.
‡Includes BA Oil, California Standard, Hudson's Bay Oil & Gas, Husky Oil & Refining, Phillips Petroleum Co.

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Big Market In U.K. Now For Appliances, Luxuries

An expanding, largely untapped market for many household appliances and other luxury and semi-luxury goods is now shaping up in booming Britain and on the European continent.

Canadian manufacturers are in a particularly good position to take advantage of the U. K. market, James S. Duncan, chairman of the Dollar Sterling Trade Council states.

They have an edge in the Commonwealth preferential tariff.

They are also better suited to give special attention to the British market than the U. S. manufacturers, who have concentrated more on the larger European market, he contends.

Spending on consumer durables in recent years has been rising much faster in the U. K. than in Canada.

Canadians have spent slightly more than an average 12% of their household budgets on durable goods and services. The percentage has remained fairly constant during the 1950s.

But in Britain, spending on consumer durables has been climbing steadily from 5.1% in 1950 to over 8% in 1959. The trend is faster and further upward.

Only 15% of all British households have a refrigerator, compared with 89% in Canada and 98% in the U. S. Just over a third have a washing machine.

Some 86% of Canadian and 93% of the U. S. households own one.

Clothes dryers, an increasingly popular item, have found their way into only three out of every 100 British households.

In Canada 13% and in the U. S. 18% own a dryer.

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Atlantic Provinces Find Seven Islands 'Hot' Market

From Our Own Correspondent

HALIFAX — The Atlantic Provinces Economic Council believes it has found a sure-fire market for Atlantic products in Seven Islands (FP, Mar. 5).

Clarence FitzRandolph, APEC products promotion manager, is sold on the Lower St. Lawrence market because Atlantic products won't be handicapped by freight rates.

Seven Islands is the centre of an iron ore boom.

The population of the area has soared from 2,000 to 12,000 in eight years.

"We feel Seven Islands is a logical sphere for Atlantic Provinces trade being close enough to take a lot of our basic products," FitzRandolph told FP, on his return from a trade mission.

He lists building and agricultural products as items which could break into the new market.

Seven Islands already buys potatoes from New Brunswick and Prince Edward Island.

"We have to look to these areas where freight competition is not a deterring factor," FitzRandolph said.

The market is within reasonable freight distance of most Atlantic ports. Charlottetown is closest at 350 mi.

"It's a large, consuming market," he said, "and there's plenty room for the Maritimes to get a slice of the market."

If Atlantic products venture further down the St. Lawrence they are priced out of the market.

Seven Islands is so close the Maritimes can contend with the freight rate factor.

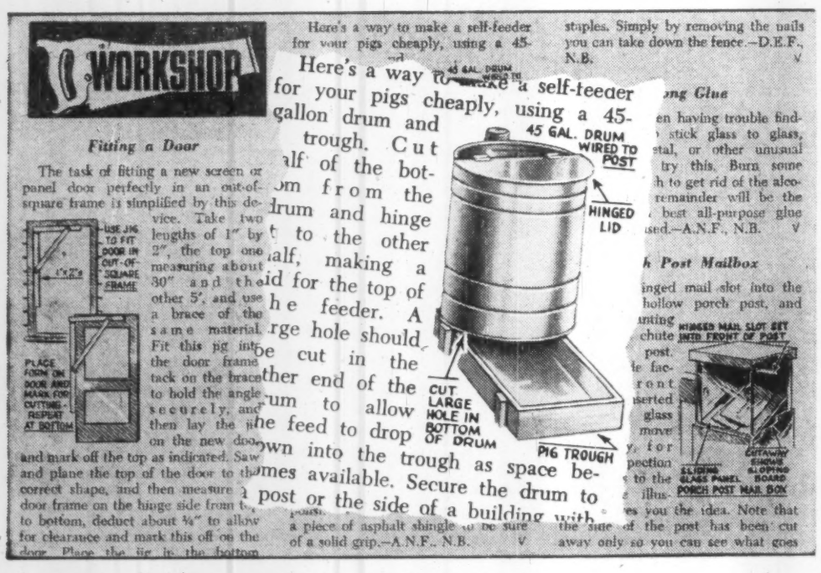
The Seven Islands market is considered more promising than the Labrador because it is a fast-growing civilian market.

Seven Islands will be introduced to Atlantic products in an exhibit April 26-28.

The market is now supplied from Montreal and Quebec.

But FitzRandolph said there is room for competition.

The people, he said, look for quality and price. APEC believes the Atlantic Provinces can provide both.



You're known by the company you keep

Looks a bit weird, doesn't it? But it's only a do-it-yourself pig self-feeder that farmer Dave Johnson made. Dave got the idea from the Workshop Page in The Country Guide, and his pigs now feed themselves from a converted oil drum. Dave isn't the only farmer who owns a home-made pig-feeder, if we can judge by readership figures. This page is read by 87% (over 450,000) of The Guide's male readers, and by 69% (almost 725,000) of *all* Guide readers.

What makes it so appealing? Well, do-it-yourself suggestions are submitted by the farmers themselves, and they're very practical suggestions. Most of all, if it's in The Guide, it works.

That's the kind of reputation The Country Guide has. Readers follow a pattern. They read, then they act. They'll do the same when they read your advertisement in The Country Guide, because you were introduced by an old friend. Remember, you (and your product) are known by the company you keep.

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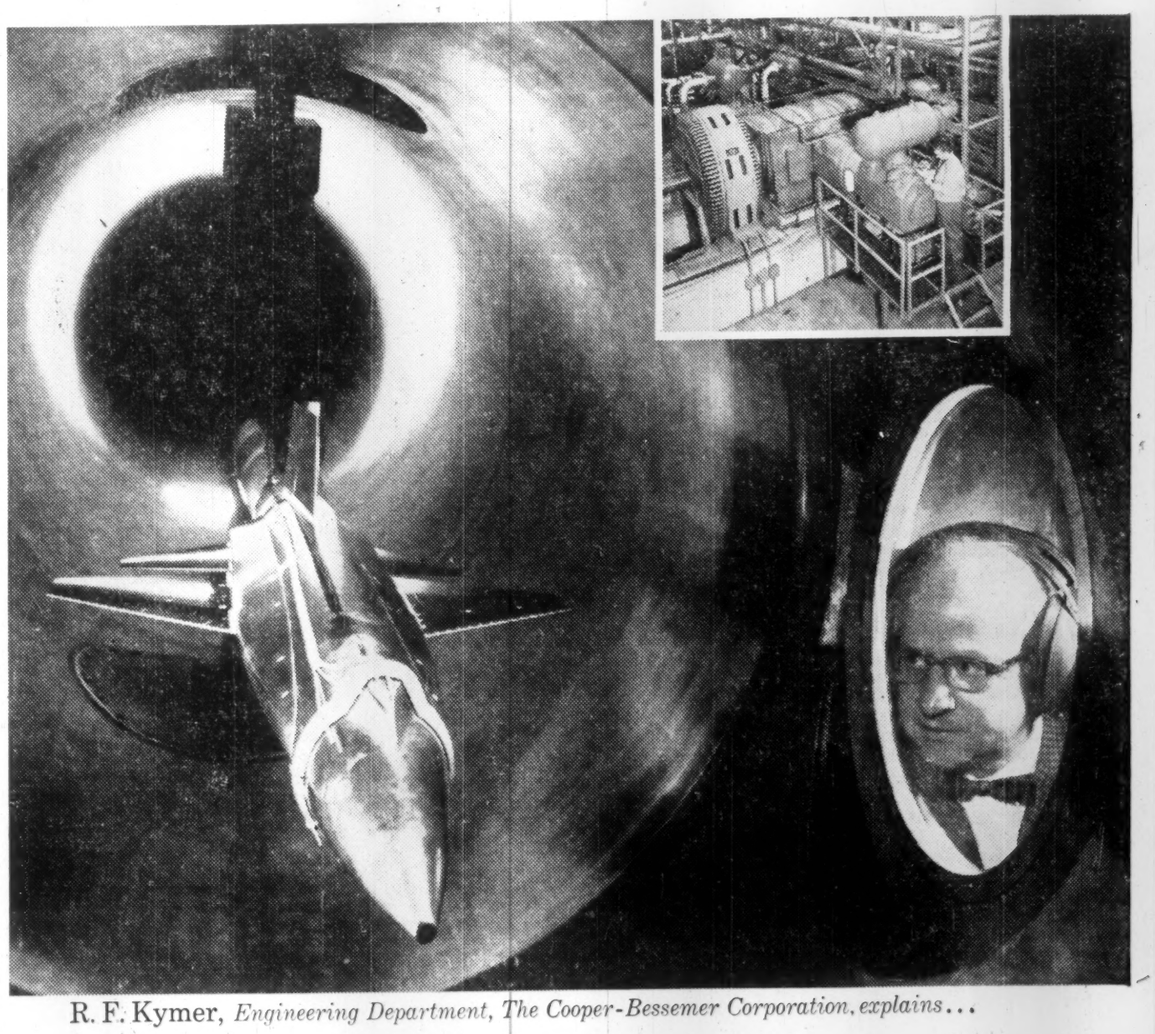

R. F. Kymer, *Engineering Department, The Cooper-Bessemer Corporation, explains . . .*

How we help produce 15,000 m.p.h. air flow for missile testing

Arnold Engineering Development Center, Arnold Air Force Station, Tennessee, includes today's most advanced wind tunnels. They can simulate missile speeds up to 20 times that of sound. The Center is part of the U.S. Air Force's Air Research and Development Command and is operated by ARO, Inc.

A tough problem here was to provide a large volume of high-pressure air, completely free from oil contamination. Cooper-Bessemer met the need by engineering and building the only large compressors with carbon pistons and piston rings capable of a discharge pressure of 4000 psi. These 5-stage units with non-lubricated cylinders, operating approximately 20 hours a day, will provide *oil-free* air to nine different test tunnels from a high pressure storage tank. One of the units is shown in the inset photo.

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ANNOUNCEMENT

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In line with the company's current expansion program, E. C. Carter, Marketing Manager of Harding Carpets Limited, announces the appointment of Grant Wilcock as Sales Manager.

Mr. Wilcock joined Harding in 1951 as a sales representative and since 1957 has been Manager Montreal office.

Letter from London

New pound note design shows myopic Britannia, surrealist haystack . . .

By ADELPHI

THIS COLUMN is written on the eve of the Budget, and therefore its details may be fully known to FP readers by the time it appears in print.

Such prophecies as I now make may have only a retrospective interest.

Chancellor Heathcoat-Armory has a dry humor and a homely personality.

In fact he looks and is a countryman and when he rises to open his Budget he gives the impression of a squire who had just walked across the fields to Westminster.

According to custom he will confine the first portion of his speech to a review of the nation's finance and trade and will not reveal any of the actual details until the Stock Market is closed.

Also according to custom he will sip a drink, usually lemonade half way through his speech.

In solemn observance of tradition the House will duly cheer this indulgence in refreshment.

* * *

AS THE NEXT general election is far off there is no need for the Chancellor to wheedle or bribe the electorate.

As a taxpayer I have no great hopes of a lowering of the income tax rate, yet, paradoxically, I would not be surprised if some pennies were knocked off the sur-tax rate.

Macmillan is a firm believer in rewarding the winners of a competitive society.

Philosophically he also believes that the Welfare State should not be allowed to crush initiative.

Therefore I predict that the Budget will be a vibrant one, intended to encourage a still greater endeavour to make the British people happy, glorious and prosperous.

* * *

NOW LET ME introduce you to the new one pound bank note which has just been issued.

It is rarely that one sees pictures of bank notes in newspapers for the simple reason that such publication might assist the forger.

However, I have before me a half page of the Daily Express which gives us the front and the back of the new note.

This publication was on the strict understanding that there must be no use of color and would not exceed 4½ in. in length.

Also it must be accompanied by the caption:

"Reproduced with the authority of the Bank of England."

What can we say about the new one pound note?

It is a very queer mixture which gives the impression of the Queen set against a haystack.

On the reverse side it gives a modernist portrait of Britannia gazing at nothing in particular.

I liked the comment in the Daily Express:

"The back has admittedly a faint surrealistic charm, such as an illustration in an old-fashioned medical book, of the stomach of a child who had recently swallowed a penny might be thought to possess."

As for the front of the banknote the Express says that the design is completely inexplicable.

"It may be," comments the newspaper, "that exquisite color will reconcile us all to what one hesitates to call the design."

In fact the new note has had a bad reception but there is no reason to fear that the public will not gather as many of them as their talents and efforts can win.

* * *

IN THIS COLUMN last week I mentioned the excellent display of the Canadian section at Olympia.

One of the most attractive exhibits was a bright country villa with a happy outlook.

It was by no means cheap in quality or price and I can quite understand the appeal that it made to that romantic realist — Garfield Weston, who decided to buy it then and there.

Presumably he will give it a setting somewhere near the sea but on the other hand he may ship it to his estate at Frenchman's Cove in Jamaica where millionaires can have luxury and a fortnight's peace for a mere few hundred pounds.

* * *

ON YOUR BEHALF I recently attended a dinner of scientists who gathered at one of London's famous old clubs.

The purpose was to discuss the use and misuse of nuclear energy, and the gathering included many of the most famous scientists in Britain.

I went there expecting to hear that science has brought horror to the world and that civilization has at last reached the summit of insanity where man can destroy the human race.

Instead there was a sparkling debate, touched appropriately by humor.

But the most impressive aspect of the whole discussion was the emphasis which nearly all the speakers made upon the peaceful use of this vast source of energy.

The final impression was that the world is moving into an age where production can be immensely developed with a decreasing cost, and that science should be used and not misused in service to mankind.

In fact it was a gathering of pioneers who might be called "Men of the New Age".

I went there expecting an evening of inspissated gloom and, instead, came away with new hope for mankind.

* * *

THE UNFORTUNATE Socialist Party, split from top to bottom on nuclear defence and nationalization of essential industries, got a double shock in the two by-elections announced this week.

In a Yorkshire constituency their majority of 47 at the general election was turned into a Tory majority of 666.

In the Harrow by-election the Tory not only held the seat but the Liberals beat the Socialists for second place.

As if that were not enough Gaitskell fired the brilliant Richard Crossman from the Opposition Front Bench on the charge of deviation of policy.

No wonder Aneurin Bevan has decided to write his memoirs.

It should sell a lot of copies.

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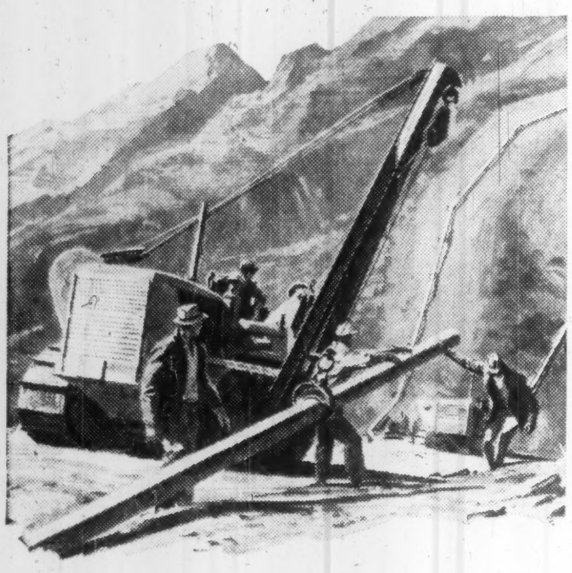

Insuring a hazardous installation of oil pipeline over the Bolivian Andes

At an altitude of 14,000 feet, the rarefied air and rugged terrain of the Bolivian Andes prove uncommon difficulties for men and machines in laying lines for piping oil from interior fields to the sea—and a severe challenge to modern insurance protection.

In this, as well as every other sector of the globe, qualified Marsh & McLennan representatives are developing coverages for their clients in all types of unusual situations. Problems of liability and values at risk are being solved with an informed, professional approach—with analysis and engineering based on our broad experience.

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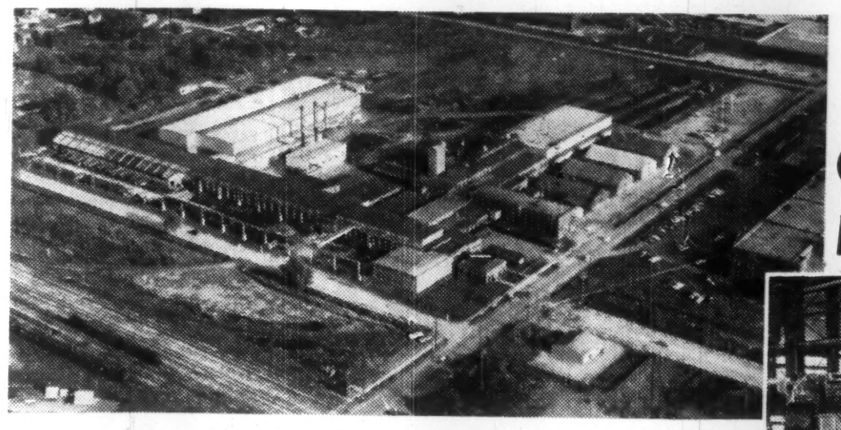
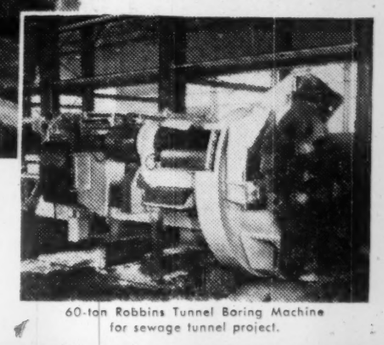


CUSTOM MANUFACTURE



60-ton Robbins Tunnel Boring Machine for sewage tunnel project.

With one of the largest and best equipped manufacturing plants in Ontario, Dorr-Oliver-Long supplies Canadian industry with a wide variety of custom built machinery. Modern machine and structural facilities and Meehanite foundry, combined with skilled workmanship enable it to turn out high quality work from drawing to finished product. Requests for quotations may be sent direct to the head office at Orillia.

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ANNOUNCEMENT

IMPERIAL BANK DIRECTOR

ROBERT J. HULL

Imperial Bank of Canada announces that at a recent meeting of the Board of Directors, Mr. Robert J. Hull was elected a Director of the Bank.

Mr. Hull is President of Cities Service Oil Company, Limited and is also President of Cities Service Refining (Canada) Limited, and is a Director of Cities Service Petroleum Inc., New York.

FINANCIAL INDEX

A weekly index to all mentions of securities made in widely read brokers' reports, financial services, periodicals and newspapers has been launched by **Financial Index Co.**, 488 7th Ave., New York 18.

European Roundup

NEWS FROM THE BUSINESS CAPITALS OF EUROPE . . .

By ERNEST WAENGLER

SO FAR THIS year, French gold and dollar reserves have continued to increase, but the rate of increase has been slower than in the latter part of 1959.

In the past year, France was able to increase her foreign currency reserves by $670 million and repay foreign debts in the amount of $1 billion.

It is assumed that the slower rate of currency increase this year is due to trade liberalization measures that took effect Jan. 1, 1960, which increased the cost of imports.

Also, events in Algeria may have slowed down the rate of repatriation of French private funds invested abroad.

Despite her improved currency position, France is still behind other European countries in building up dollar reserves.

At the beginning of this year, France held $1,720 million; West Germany $5,870 million; Italy $3,310 million; Switzerland $2,058 million.

To Canadian foreign traders, France's dollar position is well worth watching.

Our 1959 sales to France were valued at $43.5 million, down from $45.2 million the year before, despite a substantial increase in wheat sales.

* * *

ITALY HAS APPROVED a 1960/61 budget that provides for a $460 million deficit, about twice as much as the current year's excess spending.

The scheduled expenses, which amount to a quarter of the national income, are increased by $6,000 million, mainly because of a new school program, increased farm subsidies, atomic development schemes and the larger cost of state enterprises.

The expansion of heavy industries and power plants, in particular, will require large-scale government participation.

About 40% of the new investment will benefit the underdeveloped South.

One project that may be significant to Canada: A government-subsidized changeover from uneconomical wheat-growing to other crops as well as animal breeding.

* * *

WHEN THE EUROPEAN Free Trade Association (Outer Seven) was formed it was hoped that the transition would be possible without placing excessive hardship on individual industries in member countries.

However, three Swedish plants have recently announced that they are shutting down as the first direct victims of EFTA.

Two are textile factories with about 300 workers each who felt that they would not be able to stand up to the anticipated increase in competition. The third is a tannery.

* * *

THERE ARE INCREASING rumors that Spanish Trade Minister Ullastres, who is regarded as the chief architect of his country's stabilization and liberalization policy, will soon resign his office.

Some sources predict that he will even take vows as a priest.

Economic observers follow these developments with some apprehension.

Last year, for the first time in decades, Spain had an active payments balance and inflationary pressures were eased.

Ullastres is said to be the key figure in the recovery.

It is considered possible that old-style Spanish businessmen who prefer to operate in the isolation of protectionist self-sufficiency and therefore oppose Ullastres' open-door policies are deliberately supporting these rumors.

* * *

MEMBERS of the European Common Market are said to be getting around to the view that their overseas territories and possessions need not be given high-tariff preferences that would be discriminatory to other underdeveloped countries.

Instead, they should be helped by increased investment and a more active trade policy.

These associated territories and possessions will of course, automatically benefit from the relatively low external tariff of ECM which will enable them to import more cheaply from non-ECM countries (like Canada).

Canadian exporters, too, could derive some advantages from this.

Last year, we sold $8.2 million dollars worth of goods to the associated territories and colonies of Belgium, France, Italy and the Netherlands.

* * *

ABOUT 1.2 MILLION private and public employees in the Netherlands have won wage increases, the first in some time.

They include workers in the metal, clothing and brewing industries, printers, construction workers, merchant seamen and dock workers.

The average net wage in Holland has increased 39% in the past five years.

During the same period, the cost of living went up 17%. The average hourly wage before the increase was an equivalent of 50c.

Hilton Starts Work May 1 On Montreal Airport Inn

MONTREAL (Staff) — **Hilton Hotels Corp.** will start work May 1 at nearby Dorval on the first of its Canadian inns designed to serve jet-age transients (**FP**, Nov. 7, Nov. 21).

The big U. S. chain has overcome property snags and obtained clear title to a parcel of land on Cote de Liesse Rd. near the Montreal airport.

Meanwhile the Toronto-based **Skyline** organization is proceeding with construction of a 10-story, fully air-conditioned, 300-room hostelry at Dorval.

Estimated cost: $3 million.

A third contender, active in an earlier frantic scramble for sites, appears to have been temporarily stymied. That's **Hotel Corp. of America** which has 30 charterhouses (as it calls motels) on its drawing boards, including units at Toronto, Winnipeg, Calgary and Edmonton.

FP understands Hotel Corp. failed to get the piece of property it was seeking at Dorval.

Hilton's airport project will be a two-story "horizontal hotel", capable of accommodating 600 guests.

It will cost $3 million and will offer such facilities as an 18-hole putting green and a swimming pool.

Last week Hilton Hotels Corp. announced formation of a new Hilton Inns division under 33-year-old Conrad N. Hilton Jr. as vice-president.

Already in operation are inns in San Francisco, New Orleans, San Antonio and El Paso.

Four more likely will be completed in the next 18 months at Atlanta, Seattle, Aurora, Ill., and Tarrytown, N.Y., in addition to the Montreal project.

Twenty more are on the drawing boards.

Included:

A Hilton Inn at Toronto, possibly one in Vancouver.

None of the big chains appears worried about over-capacity. They point out air travel will provide an expanding flow of patrons.

Says young Conrad Hilton:

"The inns division has unlimited expansion potential in a growing North America."

Profit Rise 7% On Sask. Liquor

The net profit of Saskatchewan Liquor Board rose 7% to $12.4 million in year ending March 31, 1959, from the $11.6 million of previous year.

Board's annual report also discloses:

- Gross sales at $42 million were up about 6.6% in the year.
- Number of liquor stores in operation rose to 75 from 66.
- Licensed premises remained steady at 499 hotels, 27 canteens and five clubs.
- Issue of banquet permits rose by nearly 10% to 6,938 in latest year.

Of profits, the board made payments to provincial treasurer of $11.7 million compared with $11.2 million the previous year.

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EWBANK & PARTNERS (CANADA) LIMITED

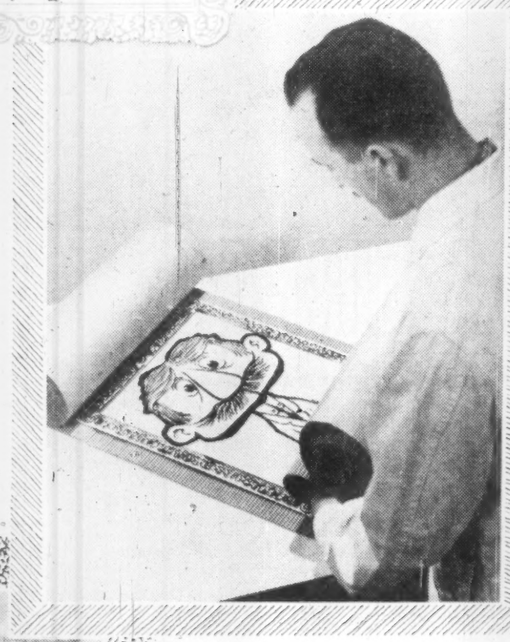
Move To New Office

Mr. K. F. Tupper, President of Ewbank & Partners (Canada) Limited, Engineering Consultants, announces that they are transferring their Head Office from 200 Bloor Street East to larger offices at 120 Eglinton Avenue East, Toronto 12, Ont., effective March 28th, 1960.

EWBANK
120 Eglinton Avenue East, Toronto 12
Telephone HUdson 7-2451
Also in London, England; Kingston, Jamaica; Baghdad, Iraq; Teheran, Iran.

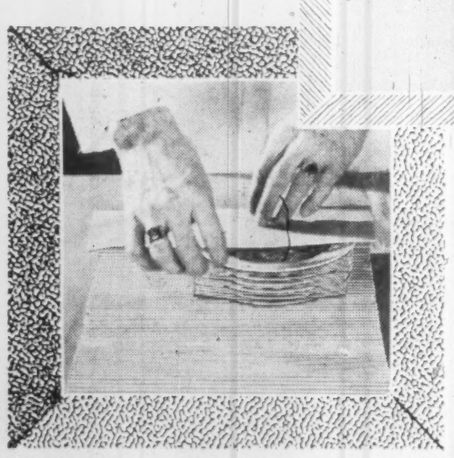
Great Grandfather Would Be Proud

Back in his day, the world seemed in a whirl of changes; electric lights, horseless carriages —some men were even talking about powered flight. But packing was still back in the middle ages. Great grandfather would be proud of New Pak.



. . . and Wowed

Great grandfather would have really appreciated New Pak. "Yes", he would think, "this is certainly a great age." And great grandmother would be beaming — for before her was the safest, cleanest, most efficient method of packing ever devised.



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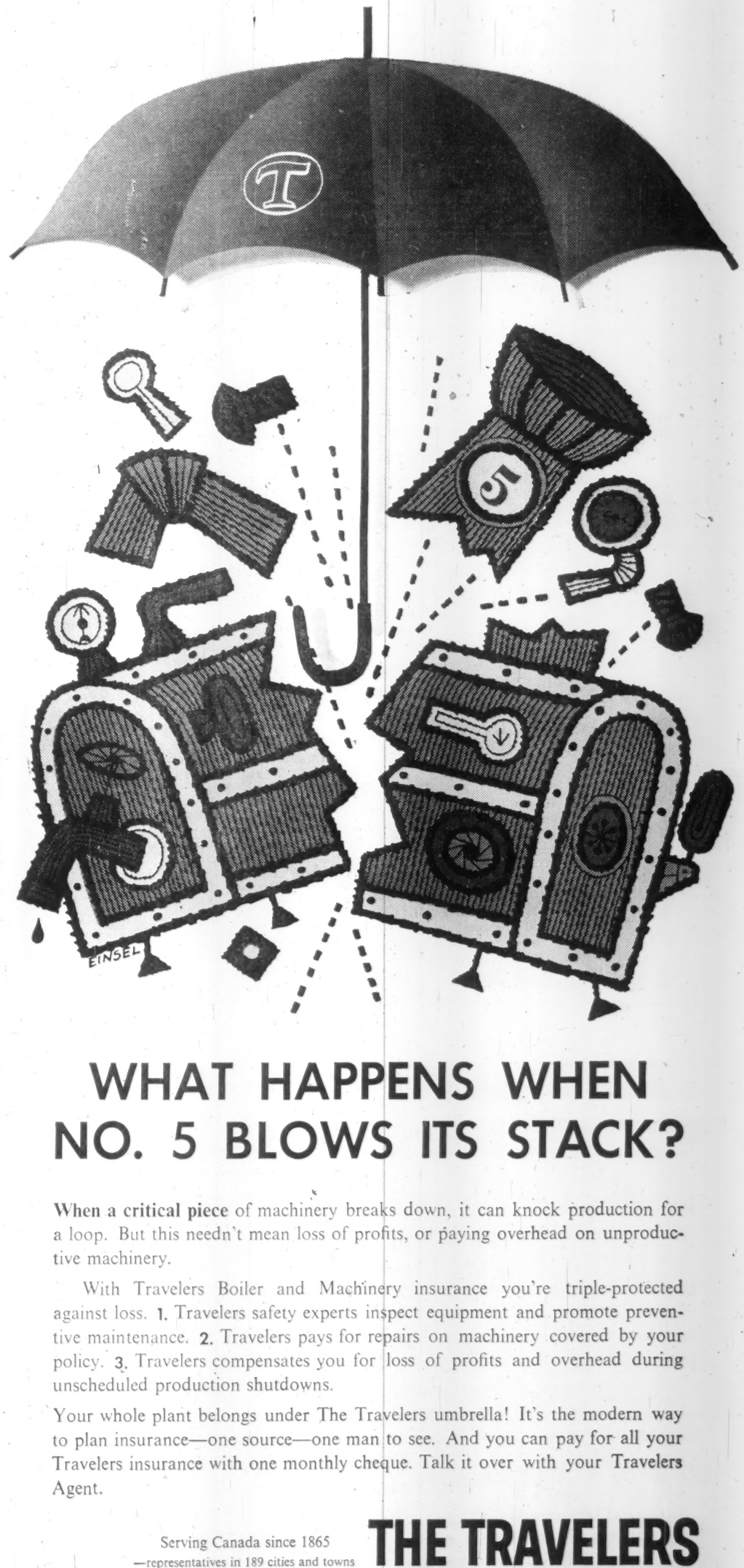

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Potash Company Spending $900,000 To Re-Open Mine

From Our Own Correspondent

SASKATOON — **Potash Co. of America** has embarked on a $900,000 program of grouting its cement shaft and will have to delay production for at least a year.

The company mined potash for a few months beginning in November, 1958, but ceased operation last year because of water flowing into the shaft.

Firm has engaged **Cementation Co. of Canada** to extend grouting operations to all sections of the mine shaft. Earlier grouting had been aimed at only the most troublesome areas.

The new method will involve a systematic withdrawal of the freezing process used in the water-laden and troublesome Blairmore formation.

ANNOUNCEMENT

CLARKE LINE OPENS NEW ONTARIO OFFICE AND TRAFFIC SERVICE IN TORONTO

J. H. COSTELLO

J. H. Costello, well-known shipping man in the domestic traffic field, who has represented Clarke Steamship in Ontario for the past year, will head a new Clarke Steamship Company Ltd. office in Toronto, according to an announcement made today by Colonel S. D. Clarke, president of the company.

The Toronto office, located in the Union Building at 212 King St. W., will be the Ontario headquarters of a new Clarke Steamship's Division to be known as "Clarke Traffic Services—CTS". "It will offer many benefits to Clarke clients", states Colonel Clarke, "in the fields of LCL consolidation, furtherance, cartage, warehousing, and consulting, and is designed to effect savings wherever possible for Clarke clients. Mr. Costello, with his staff, will be able to offer specialized experience gained in a pioneer company that has maintained a leading position in its field for over forty years".

The Clarke Line operates regular freight and passenger steamship services between Montreal/Quebec and ports of the Gulf of St. Lawrence, Newfoundland, Labrador, Ungava and Hudson Bay, in summer season; and in winter between Saint John, N.B./Halifax and St. John's, Nfld., with winter sailings also to the Quebec North Shore including Seven Islands and Baie Comeau, from Quebec, Pointe-au-Pic and Rimouski.

Uranium-Steel Alloys to Get Stiffer Tests

Ottawa researchers confident of big new uranium market in fatigue-resistant metal . . .

OTTAWA (Staff) — If any one of several very promising uranium alloys produces all the qualities now expected of it, Canada's present stock of uranium would soon prove inadequate.

This is the view of experts here working on research projects with many different variants of the possible alloys, which use quantities of uranium ranging from ¼-lb. per ton of steel up to three lbs. per ton.

Unexpectedly rapid success with the experimental 50-lb. ingots which the Federal Mines Bureau can handle has led to larger scale tests in cooperation with **Atlas Steel.**

Within about ten days, Atlas will roll a number of 500-lb. ingots of uranium-alloyed steel produced by the mines branch. This will enable the qualities of the alloys to be more thoroughly tested, and it will give the mines branch scientists a more adequate quantity of material to work with.

While Saul Gertsman, the metallurgist responsible for the project, still calls it purely experimental (**FP**, Jan. 30), there is no doubt here about the immense rewards which this research may bring to the uranium industry; and officials, both in the mines branch and in **Eldorado Mining & Refining Ltd.** are increasingly optimistic about the results.

Here are just two applications which, if they are proven successfully, would give uranium a big boost:

● **Fatigue-resistant steel.** One application which the metallurgists have been considering is for use in railway axles. But there are hardly any uses of steel in which greater resistance to fatigue would not be a tremendous advantage.

● **Corrosion-resisting steel.** An alloy containing three pounds per ton of uranium has demonstrated high resistance to corrosion. So far alloys using more than five pounds of uranium have a tendency to crack when they are rolled. If this could be overcome, there might be good chances of producing an alloy almost as resistant to corrosion as stainless steel, with as much as 7 lb. or 8 lb. of uranium in it.

Co-operation of steel firms in Canada has been assured, and several of the larger U. S. steel companies are making constant enquiries and offers of help.

But the whole project is limping along at a relatively slow pace for want of money and skilled men.

The mines branch is putting in $40,000 a year. Eldorado has been contributing $10,000, and has just raised this to $25,000. It has also lent some of its staff. This increase will enable the mines branch to take on four more metallurgists and four new technicians. The posts are about to be advertised.

This will double the researchers on the project. It may be enough to keep things moving for another six months. But by the fall, unless more money and more men are provided, the whole project, on which so much may depend, will be delayed again.

Eldorado is now considering dropping several of its other research projects in order to increase its contribution to $60,000, which would make a total of $100,000.

But comment is spreading, in both scientific and political circles here, at the absence of any contribution from the uranium mining industry, which has more at stake than anyone else.

Result of operations being so confined is that the metallurgists have simply had to "take potshots" at the areas of greatest industrial interest. The number of tests they can make is necessarily limited; and some promising areas simply cannot be tackled for the time being.

For example, a field that might yield rich rewards, it is believed, is the inclusion of some uranium in copper and aluminum alloys.

But, plodding along with present resources, the mines branch warns that the development of satisfactory corrosion-resisting steel still requires a lot of work, and will take more time than they hope will be needed on the fatigue-resistant alloy.

Word has recently been received that the U. S. Bureau of Mines is also working on uranium-alloys at Albany, Ore. Its main line of work seems to be on bearings; but steel is also being considered.

The patent position is uncertain; but it is already being explored with a view to patenting as much as possible of the mines branch work.

Even if patents are not obtainable, it is believed that any other country wanting to use the process would have to come to its originators for the know-how; and the intention is that purchase of Canadian uranium could be made a condition of the government's cooperation.

But the biggest potential of all is probably the U. S. steel industry, and the U. S. will certainly want to use its own uranium. Even that will benefit Canadian producers, if they use enough of it.

But the advantage of keeping Canadian research ahead in this field could be immense, it is believed. And even if Eldorado curtails its other research for this one purpose, $100,000 is a thin ration for a potential world-beater.

$1.5 Million Plant Makes Sports Gear

A $1.5 million sports factory, making equipment to help fill Canadians' growing leisure time, has been opened at Dixie, Ont.

The plant is owned by **Brunswick of Canada Ltd.**, which makes:

Equipment for billiards, bowling, gymnastics, baseball, football, golf, tennis, basketball, as well as fibre glass boats and school furniture.

Company is a subsidiary of **Brunswick - Balke - Collender Ltd.**, Chicago.

Brunswick makes a good part of all Canada's bowling equipment, estimates that more than two million Canadians are now fairly regular bowlers.

More than $60 million is invested in bowling establishments.

One of Brunswick's biggest installations:

The $1 million Laurentian Lanes in Montreal, operating seven days a week from 9 a.m. to midnight. It attracts 8,000 bowlers weekly on its 48 lanes.

Brunswick's new plant provides 200,000 sq. ft. of working space on a 20-acre site, employs about 200.

General contractor: **Evan S. Martin.**

Major subcontractors: **Jeffrey Manufacturing Co., Martin Bros., Geo. C. Abbott Co., John Watt, Classic Sheet Metal Co.**, all of Toronto; **Wheelabrator Corp.** Canadian division, Agincourt, Ont.

Record of Financing

Sales by Municipalities, Provincial and Dominion Governments. Offerings of Corporations and Securities.

DOMINION

Government of Canada Treasury Bills—Due June 10, 1960 and Sept. 9, 1960, $120,000,000. Issued March 11, 1960. Sold at $98.930 to yield 4.34% and $97.773 to yield 4.37%.

MUNICIPAL

Village of St. Joseph, P.Q.—6% debentures, due March 1, 1961-70, $180,000. Issued March 1, 1960. Sold at $96.77 to Banque Provinciale du Canada and Desjardins Couture, Inc.

Village of Bois-des-Filion, P.Q.—6% debentures, due Feb. 1, 1961-70, $28,500. Issued March 2, 1960. Sold at $97.82 to Marc Faford and St-Henri-de-Mascouche.

Village of Bic, P.Q.—6% debentures, due April 1, 1961-70, $30,000. Issued March 7, 1960. Sold at $96.84 to La Corporation de Prets de Quebec.

Town of Dundas, Ont.—6½% debentures, due Dec. 15, 1960-74, and Feb. 1, 1961-80, $203,910. Issued March 7, 1960. Sold at $99.17 to McLeod, Young, Weir & Co. Ltd.

Mun. of Messine, P.Q.—5½% debentures, due April 1, 1961-74, $20,000. Issued March 7, 1960. Sold at $100 to La Caisse Populaire de Messine.

City of Trois-Rivieres, P.Q.—6% debentures, due Nov. 1, 1960-79, $2,805,000. Issued March 7, 1960. Sold at $96.141 to A. E. Ames & Co. Ltd., Dominion Securities Corp. Ltd., Wood, Gundy & Co. Ltd., Royal Bank of Canada and J. C. Boulet, Ltée.

Township of Grantham, Ont.—6% debentures, due April 1, 1960-79, $1,450,000. Issued March 8, 1960. Sold at $97.30 to Midland Securities Corp. Ltd., Mills, Spence & Co. Ltd. and McLeod, Young, Weir & Co. Ltd.

Regina Public School District No. 4, Sask.—6% debentures, due March 15, 1961-80, $950,000. Issued March 9, 1960. Sold at $93.61 to Wood, Gundy & Co. Ltd., A. E. Ames & Co. Ltd., Osler, Hammond & Nanton Ltd. and Royal Bank of Canada.

City of Farnham, P.Q.—6% debentures, due March 1, 1961-70, $275,000. Issued Feb. 29, 1960. Sold at $97.19 to Credit Interprovincial Ltée.

Town of Gatineau, P.Q.—6% debentures, due March 1, 1961-80, $156,000. Issued Feb. 29, 1960. Sold at $95.07 to J. F. Simard & Cie, Ltée.

CORPORATE

Algonquin Building Credit Limited—7% sinking fund debentures, series A, to mature March 15, 1970, $600,000. Dated March 15, 1960. Offered at $100 and accrued interest by Matthews & Co. Ltd.

PREFERRED

Northern Ontario Natural Gas Company Limited—6% cumulative redeemable convertible first mortgage preference shares, series A (with a par value of $50 each), $2,000,000 (40,000 shares). Offered at $50 per share to yield 6% by McLeod, Young, Weir & Co. Ltd. and Bankers Bond Corp. Ltd.

FLOWMETER

Canadian General Electric Co., Toronto, says it has an industrial mass flowmeter that measures ethylene flow directly in pounds with an accuracy of within 1%.

THE INVESTMENT FUNDS

All-Canadian Funds Adds $1.5 Million Bills, Bonds

All-Canadian Funds, Vancouver, total assets amounted to $24,684,395 at Dec. 31, 1959, up 0.5% from $24,559,753 three months earlier.

At Dec. 31, 1959, net asset value per compound fund share was $7.63 and per dividend fund share was $6.08. At Sept. 30, 1959, net asset values were $7.65 and $6.23, respectively.

During the quarter, the fund purchased $1 million in Canada treasury bills and $500,000 in **British Columbia Electric Co.** 6% debentures, due 1984.

The fund liquidated six common stocks, including **British American Oil Co., British Columbia Forest Products**, and three mining companies. Common stock of **Dominion Bridge Co., International Utilities**, and **Industrial Acceptance** were purchased. Four other common holdings were increased and two decreased.

Here are the portfolio changes for the three months in detail:

	Amount held Dec. 31 1959	Change since Sept. 30 1959
Bonds	$	$
B.C. Electric 6%/84	500,000	+500,000
Canada treas., bills	1,000,000	+1,000,000
Common stock	—shares—	
B.A. Oil	nil	—9,000
B.C. Forest Prod.	nil	—31,200
B.C. Power	37,900	+2,000
Can. Oil Cos.	34,550	+2,000
Dom. Bridge	57,000	+57,000
Dom. Tar	90,500	—6,700
Hollinger Cons.	nil	—9,000
Hudson Bay M. & S.	nil	—12,300
International Utilities	2,000	+2,000
Ind. Accept. Corp.	3,500	+3,500
Que. Nat. Gas	57,900	+3,500
MacMillan & Blo. B	nil	—10,080
Noranda Mines	nil	—13,800
Texaco Can.	8,940	+1,500
Trans-Mtn. Oil Pipe	29,800	—14,000

More TB and Handicapped Refugees Seen for Canada

OTTAWA (Staff) — Canada's contribution to World Refugee Year is likely to be extended considerably within the next few weeks.

The contribution could amount to acceptance of 200 to 300 European "TB" refugees and their families, plus several hundred others with physical handicaps.

Reason for the extension:

The hassle between the Federal Government and Canada's private charities about the WRY contribution (**FP**, Feb. 26) has been patched up.

The government is actively trying to negotiate the changes which the charities want.

Canada's original WRY contribution, announced last fall, was the acceptance of 100 European refugees with TB and their families; plus the waiving of normal immigration requirements on sick or handicapped refugees if private charities would "sponsor" them.

The private charities declined to sponsor refugees because the liability which they would have had to assume was undefined, and varied from province to province and city to city.

Early this month, the Canadian Welfare Council, which represents 425 welfare agencies, asked the government to:

● **Sponsor "additional" refugees** with TB from the European camps.

● **Extend the sponsorship arrangement** for private charities beyond June 30, the end of World Refugee Year.

● **Negotiate arrangements with the provinces** limiting the responsibilities which private charities would assume for "sponsored" refugees.

The first two requests have already been met; and the government is working on the third.

As originally defined, "sponsorship" included:

● **Payment of travelling expenses,** providing accommodation and maintenance on arrival and job-finding.

● **"Acceptance of responsibility for persons brought to Canada** until they become eligible for normal municipal or provincial social welfare benefits."

These benefits include unemployment assistance, old age assistance, family allowances, hospital insurance, mothers' allowances, TB care and others.

Administration of most of these is done by the provinces, and conditions and eligibility requirements vary widely.

The welfare council asked the government either to work out arrangements with the provinces under which privately-sponsored refugees could get these welfare benefits as soon as they arrive, or pay these benefits itself.

If this was done, the charitable groups would pay travelling expenses, accommodation and maintenance and help the refugees find jobs.

Three charitable groups are now processing refugee dossiers with the idea of sponsoring.

● **Catholic Immigrant Services has a "parish sponsorship" scheme by which individual parishes** would look after refugee families. If the Dominion and provinces agree to pay welfare benefits, the CIS may take as many as 300 families. If they don't, the number will be closer to 30.

● **The United Church of Canada and the National Council of Jewish Women** are contemplating similar plans. The latter has offered to take 10 to 15 refugees and their families under the sponsorship arrangement as originally defined.

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OPPORTUNITIES

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Canada, U.S. Talk Business

Canadian and U. S. businessmen this week aired their views on U. S. investment in Canada and the impact of trade policies of their two countries.

Some views:

• **U. S. businessmen** should think of their plants in Canada as a Canadian company with U. S. shareholders, not as a U. S. subsidiary.

• **Canadians should be given** the opportunity to invest in foreign subsidiaries operating in Canada.

• **The U. S. is devoting** more systematic efforts toward achieving and maintaining a mutually happy relationship with Canada than with any other single nation.

Here is a digest of key speeches made to the Canadian-American Business Conference at Boston University:

J. R. White, president, Imperial Oil Ltd.:

Any company in Canada must live wth the conditions of supply and demand which it finds in Canada, it must live with the laws and regulations which it finds in Canada.

And these are not dictated by corporate management or ownership but by the people of Canada themselves.

This is essentially what makes decentralization necessary in the management of any Canadian company with majority shareholding abroad.

Once it becomes thoroughly understood that the real rulers of business are the customers and their governments, then I think a good deal of the concern about where stock control is held will rapidly disappear.

I also think that, wherever it is possible, a substantial group of Canadian shareholders is very much to be desired.

In the first place, they contribute capital — something which is not to be treated lightly in these days of high interest rates!

In the second place, they automatically integrate your company with the Canadian community.

As you probably know, certain rulings of the United States federal tax authorities put incentive on minimizing local participation in the stock of an American - controlled company abroad, particularly in respect to consolidation for tax purposes. Not only does it tend to reduce the efficiency of American ventures abroad, but it casts doubt on the good faith of America's desire to extend the benefits of free enterprise.

The growth of trading areas across the Atlantic and in Latin America has led to considerable soul-searching in Canada and the United States as to the desirability of closer economic ties.

Personally, I think some closer and more durable links between the Canadian and U. S. economies are desirable.

But there is a danger that if an excessive degree of integration is proposed, or if the suggestion is made that not only economic but political integration should take place, many people would be displeased and progress toward better North American trade relations might be delayed.

Prof. Eric W Kierans, McGill University, president, Montreal and Canadian Stock Exchanges:

Should Canadians be given the opportunity to invest in subsidiaries operating in Canada?

I firmly believe so.

The combination of Canadian management and American capital has proven profitable to the American investor and has developed our country at a rate beyond our own capacity.

It would be a long step forward if equity participation were made available and do much to eliminate our fears about this growing control.

There are many sound reasons for urging that Canadians be invited to participate in the ownership of subsidiaries:

▸ **Many American and foreign subsidiaries** operate under the private company charter. As such they are not required to file financial statements and their Canadian competitors with public participation are clearly at a disadvantage.

▸ **Canadians would like to know** more about the trade policies of subsidiaries. In many instances, acquisition by a parent company has resulted in restrictions on export programs.

▸ **A great many subsidiaries** in Canada pay no, or nominal, dividends to the parent corporation.

The Canadian firm, under pressure to distribute dividends, will be at a disadvantage.

▸ **It is extremely difficult** for governments to formulate economic and fiscal policy on the basis of inadequate information on the financial statistics of corporations largely because the coverage afforded by the public companies was inadequate.

Too many foreign companies, operating in Canada, disclosed nothing of their operations and it is indeed difficult to formulate appropriate tax, trade and tariff policies to encourage development and growth when the very facts themselves are not available.

▸ **With a few exceptions,** the bulk of research is carried on by parent companies.

While the results are passed on to subsidiaries, the fact remains that we are not building up our own pool of scientific knowledge, gathering together our own research teams and applying the new discoveries to Canadian needs.

This weakness may render our economy even more dependent.

Congressman Frank Coffin took a look at Canada-U. S. relations and liked what he saw.

The co-author of two valuable Congressional reports on relations between the two countries said that while all problems have not been solved since his reports were published two years ago, today's fever chart has a much better reading.

He noted the "Buy American" policy on U. S. defence spending has been waived for Canada as he had recommended.

Defence production sharing has been successfully begun.

Canadian oil has been exempted from U. S. import quotas.

Canada has lifted a ban on U. S. hogs.

Defence planning is closer than ever.

The Congress - Parliament group is making headway in mutual education.

The U. S. is consulting more on farm surplus disposals with Canada.

"The truth is," the Maine Democrat said, "that the U. S. today is devoting more systematic efforts toward achieving and maintaining a mutually happy relationship with Canada than with any other single nation . . .

"To put it another way, both nations are trying their level best to make proximity more than tolerable."

Coffin noted that up to about three years ago it had become effective politics in Canada to sound the clarion on U. S. ignorance or arrogance or both in relations with Canada.

"What fanned the flames was our insufferable and incomprehending geniality," he added.

Coffin, who will make a try for the governorship of Maine in the next election, noted that while there has been some succession production sharing, he felt it could be enhanced by the Pentagon making better use of "demonstrated Canadian capabilities".

"The most notable example of this capability," he said, "is in the military air transport field where we have no aircraft to compare with **Canadair's** CL-44.

"If defence production and development sharing means anything, it means using the best available talent and equipment from either country."

The Congressman said Canada and the U. S. must work together to be sure the new Atlantic economic grouping that grows out of current efforts to broaden the organization for European Economic Cooperation (OEEC) is more than "something we can live with for the time being".

He said the two countries must not settle for too little and should be sure the terms of reference for any new organization will be broad enough to cover commodity price fluctuations, low cost competition problems, foreign aid co-ordination and trade policy problems.

"While I recognize that often we must creep before we walk and that we must not be over ambitious in what we try to construct out of OEEC," he said, "I have the feeling that this is a time for boldness in our economic diplomacy."

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Bell Telephone Co. of Canada (Montreal) — R. C. Scrivener, director of business development; G. H. Lowndes, marketing manager, Montreal; S. R. Stevens, marketing manager, Toronto.

Brandon Packers Ltd. (Brandon) — A. L. Wudel, president; D. Hubert Cox, vice-president and director; H. Paton, vice-president and director; G. M. Adams, secretary-treasurer and director; A. T. Bass, director.

British Columbia Forest Products Ltd. (Vancouver) — Arthur F. Armstrong, director.

Canadian Park & Tilford (Vancouver)—H. C. Greene, office manager; M. P. Balagno, manager, advertising and public relations.

Catelli Food Products Ltd. (Montreal) — Right Honorable C. D. Howe, director; J. P. Talbot, comptroller; K. J. Forbes, president, **Catelli-Habitant Ltd.**

Channel Seven Television Ltd. (Winnipeg) — Ralph S. Misener, president; Lloyd E. Moffat, vice-president and director; T. O. Peterson, treasurer and director; Campbell Haig, secretary and director; Jack M. Davidson, general manager and dir.; Walter E. Kroeker and Roland G. Couture, directors.

Clarke Steamship Co. (Montreal)—J. H. Costello, head of new division, **Clarke Traffic Services, Toronto.**

Dowty Equipment of Canada (Ajax, Ont.)—M. C. Potts, executive vice-president.

Edgar T. Alberts Ltd. (Toronto) — G. Harvey Hand, counsel for the buyer.

FWD Corp. (Canada) Ltd. (Kitchener)—J. Kenneth Sims, chairman; Roy E. Brown, president; R. J. Hiller, secretary-treasurer.

Great-West Life Assurance Co. (Winnipeg)—John E. Macdonald, assistant manager, Montreal mortgage investment office.

Imperial Bank of Canada (Toronto) —Robert J. Hull, director.

Industrial Cellulose Research Ltd. (Hawkesbury, Ont.) — Sigmund Wang, chairman; D. E. Read, president; W. G. Dodge, vice-president.

Harding Carpets Ltd. (Brantford) — Grant Wilcock, sales manager.

John Inglis Co. (Toronto) — D. G. Keaveney, vice-president, finance; R. Armitage, comptroller.

Kelite Corp. (Berkeley Hts., N.J.) —Donald E. Wellman, division sales manager, Canada.

Liquid Carbonic Canadian Corporation (Montreal) — W. T. Underwood, regional sales manager, British Columbia; A. G. Latimer, regional sales manager, Manitoba.

Lumbermen's Mutual Casualty Co. (Toronto) — Douglas R. Beattie, accounting and purchasing manager; Charles D. Burke, casualty underwriting manager; Francis D. Burns, auto underwriting manager; Russell W. Clearwater, boiler underwriting and production manager; Arthur C. Henderson, fire underwriting manager; Joseph W. Myers, claim manager; J. Kenneth Northgate, boiler engineering supervisor; Charles C. Stearns, assistant manager, Canadian department; Paul C. Chamak, fire underwriting supervisor; John E. Jaques, assistant auto underwriting department manager.

Moffats Ltd. (Weston, Ont.)—P. J. Myers, advertising and sales promotion manager.

Montreal Stock Exchange and Canadian Stock Exchange (Montreal) —Paul F. McDonald, vice-president.

Mutual Accumulating Fund, Mutual Income Fund and Mutual Bond Fund (Vancouver) — Harold R. Lawson, governor.

Mutual Funds Management Corp. (Vancouver)—John A. Rhind, director.

National House Coffee Ltd. (Montreal)—Douglas Williams, general manager.

Northwest Industries Ltd. (Edmonton) — Donald F. Donson, executive assistant to vice-president and general manager, W. C. Pitfield.

The Public Accountants Council for the Province of Ontario (Toronto) —H. R. Macdonald, president; G. B. MacDonald, vice-president; D. A. Ampleford, secretary; J. R. M. Wilson, treasurer.

St. Croix Paper Co. (Boston, Mass.) —Senator Clarence V. Emerson, director.

Simplicity Products Ltd. (Hespeler, Ont.)—C. A. Wilson, president; T. R. Reid, director.

The Steel Co. of Canada (Hamilton, Ont.) — John D. Allan, product assistant to the vice-president; Gordon W. R. Bowlby, sales manager, construction materials division.

Underwriters Adjustment Bureau (Montreal) — George M. Pelton, assistant general manager.

Walker Metal Products Ltd. (Windsor)—Ralph J. Lavallee, general manager.

Short Position Changes at Mtl.

MONTREAL (Staff) — Short position on the Montreal Stock Exchange March 15, 1960, was 8,415 shares in 25 issues, down 5,538 shares but up four issues from the position Feb. 29.

Among significant changes:

Stock	Shares	Stock	Shares
Abitibi	+75	Cdn Brew	—200
Aluminium	—225	Dom Tar	+100
Atlas	+200	Imp Bank	—100
BC Power	—100	Imp Oil	—200
Cal Power	—390	Massey	—175
Can Cement	—6,125	Std St Steel	—400

Short position on the Canadian Stock Exchange March 15, 1960, was 59,750 shares in 18 issues, down 1,983 shares but unchanged as to issues from the position Feb. 29.

Among significant changes:

Stock	Shares	Stock	Shares
Bellechasse	—1,433	Falconbridge	—100
Can-Met	—6,000	New Myl	—3,000
Canorama	+2,100	Orchan	+1,800
Cent Del Rio	+200	Opemiska	—400
Chemalloy	+300	St Law RM	—1,200

Here is the actual short position on the Montreal Stock Exchange March 15:

Stock	Shares	Stock	Shares
Abitibi	960	Fraser	200
Algoma	200	How Smith	100
Aluminium	775	Imp Bank	100
Atlas	200	Imp Oil	200
BC Power	100	Int Nickel	185
Brown	100	Massey	175
Can Cement	2,025	Molson A	200
Can Iron	460	Mtl Loco	100
Cdn Bx Al	150	Royalite	100
Cdn Hydro	100	Simpson's	160
Cockshutt	550	Std Str Steel	500
Dom Tar	150	Steinberg's A	425
		Zellers	100

Here is the actual short position on the Canadian Stock Exchange March 15:

Stock	Shares	Stock	Shares
Arno	4,500	Orchan	12,900
Cdn Collier	100	Opemiska	500
Cdn Marconi	300	Que Cobalt	200
Can-Met	1,000	Que Lithium	100
Canorama	2,100	St Law RM	400
Cent Del Rio	700	Trader's F. A	150
Chemalloy	1,500	Tr Mountain	400
New Myl	27,700	Vanguard	5,000
N West Amu.	1,000	Waterman	1,100

Pipe-Maker Ready to Roll When Gas Export Approved

If Ottawa approves large-scale export of gas to the U. S. at least one major pipe manufacturer — **Page-Hersey Tubes Ltd.** with its partner **Steel Co. of Canada** — will be ready to start rolling large diameter pipe for gas pipelines right away.

Company's new pipe plant at Camrose, Alta. (**Camrose Tubes Ltd.**) is now virtually completed and could start rolling pipe within one or two weeks.

The plant is equipped to make pipe in diameters up to 40 in.

Company's existing big-inch diameter pipe plant at Welland, Ont. (**Welland Tubes Ltd.**) has actually started to roll 36-in. diameter pipe, FP understands.

This plant has been closed down for some months now through lack of orders.

A second manufacturer of large diameter steel pipe — **Big Inch Pipe Co.**, Calgary, Alta. — is rushing its new Calgary pipe plant to completion as rapidly as possible.

It could come into operation by June.

This plant will be able to make pipe up to 36-in. diameter.

Requirements of 36-in. diameter pipe will come from **Alberta Gas Trunk Line** and **Alberta Natural Gas Co.**

If Ottawa approves large-scale gas export to California then Trunk Line plans to install 386 mi. of 36-in. line down the Alberta Foothills to the Crow's Nest Pass area.

Alberta Natural Gas — to be owned equally by **Alberta & Southern Gas, Westcoast Transmission** and the public — plans to build some 106 mi. of 36-in. line in the southeast corner of B. C.

These projects would be completed over a two-year construction span starting as soon as possible this spring.

Orders for pipe would be placed with Canadian mills.

But the export approvals would in turn touch off a continuing program for substantial quantities of additional pipe in smaller diameters to be used for laterals and gathering systems.

DARTMOUTH TERMINAL

MONTREAL (Staff) — Construction of **Texaco Canada Ltd.'s** marine terminal near Dartmouth, N.S., will get under way in early summer with work scheduled for completion in late fall (FP, Nov. 14, 1959). Cost: $1.7 million. Decision to build the Dartmouth terminal rather than add to existing facilities at Halifax was taken because there isn't enough land at the Halifax site for future expansion.

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Direct Subsidy May Slow Dosco Coal Mine Closings

MONTREAL (Staff)—Closure of three uneconomic coal mines by **Dominion Steel & Coal Corp.** probably will be delayed by a special direct subsidy (**FP**, March 19).

In talks with the federal government, Dosco is understood to have expressed willingness to keep the three high-cost pits open until the Rand commission on coal presents its findings, "so long as they are not subject to further losses".

Ottawa is believed to be considering a temporary expedient, involving government spending above the level of current subventions.

Extension of a special federal subsidy of $3.5 million, established last year, maintains 1960-61 aid for Nova Scotia coal at $12 million, or almost $5 a ton on sales in Ontario and Quebec.

In its brief to the Rand commission, District 26 of the United Mine Workers demanded "unlimited subventions if necessary" to maintain the coal industry in Cape Breton.

The union also demanded a tax on foreign oil. The town of New Waterford, where one of the collieries facing closure is located, suggested an embargo on U. S. coal until all Canadian production is sold.

Commissioner Ivan C. Rand frequently urged in the Sydney hearings that mature consideration be given to some of the implications in the briefs.

"We can't say we'll have no truck with U. S. coal and then protest U. S. quotas on imported oil," he said. "International relations are not a one-way street."

He also questioned whether a government, even assuming it had an obligation to provide employment for displaced miners, had an obligation to provide the same type of employment in the same location.

The commission also refuted a UMW charge that Dosco drained profits from its coal operations by selling coal to its Sydney steel plant below market prices.

Rand said Dosco's books are open to the Dominion Coal Board, which approves all accounts before providing assistance.

The steel plant is the coal company's biggest customer, requiring more than a million tons annually.

United Cuban Oil Enters Canadian Mining Picture

United Cuban Oil Inc., Houston, Texas, has entered the Canadian mining industry through an acquired interest in **Georgian Mineral Industries Ltd.**, a Calgary mining firm.

Georgian will operate all mining interests in Canada and Central and South America for United Cuban. United Cuban president James J. McBride has been named board chairman of Georgian Mineral.

Other United Cuban officers elected to the Georgian board of directors:

John Martin, president; William M. Laird, secretary; J. C. Lampton, treasurer and J. C. Mackie, director.

G. C. Short, a United Cuban vice-president, will remain as executive vice-president and director of Georgian.

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The analyst must have a good knowledge of various office systems, procedures and equipment and be able to discuss improved methods with the departments concerned, to prepare a concise report on the subject and assist the department with the implementation of the new procedure.

Applicants should have worked in a senior capacity in a department concerned with office management, systems and procedures, internal auditing or related work, and should have considerable experience in accounting, forms usage, written procedures and paper-work flow and be familiar with developments in the field of integrated data processing and punched card applications.

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ROOM 247, LEGISLATIVE BUILDINGS
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Duties include complete responsibility for the maintenance of mining, automotive and railroad equipment and supervision of the Maintenance Shops at the Mine and Terminal.

A degree in Mechanical Engineering, several years of experience in the field of heavy mobile equipment repair and previous supervisory experience at a senior level are prerequisites for the position. However, extensive pertinent experience would be considered in lieu of a degree.

Excellent fringe benefits, salary fully commensurate with experience and ability.

Apply to Personnel Manager,
Quebec Iron and Titanium Corporation,
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Duties: To obtain technical and scientific information on properties and processing of materials from technical literature, government departments, research organizations and industrial associations; to reply to inquiries on specific problems of a wide and varied nature sent in by Canadian secondary industry.

Qualifications: Minimum of graduation from a recognized university in Mechanical or Chemical Engineering with several years industrial experience preferred. Background of production management or industrial engineering desirable.

Salary: Dependent on qualifications.

Applications should be forwarded to the Employment Officer
National Research Council
Sussex Drive, Ottawa 2
In reply please quote 18-8.

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EM. 4-1918

Asbestos Corp. Leipzig Fair Lone Pioneer

Lone Canadian firm exhibits at once-shunned exhibition in Communist East Germany . . .

By DAVID SCOTT

LEIPZIG — The first post-war appearance of a Canadian exhibitor at the Leipzig Fair in early March marked the trans-Atlantic appeal of this Communist market-place. Leipzig this spring has blossomed forth as a summit meeting place of European industry.

Lone pioneer was the **Asbestos Corp.** of Thetford Mines, Que., operating through its West Berlin agent.

It displayed both raw asbestos and locally produced auto clutch linings and other items made from the imported material.

The company has done "very good business" with East Germany during the past four years, its representative stated, and the organizers of the fair had urged it to come to Leipzig, with the prospect of more.

But East Germany's main interest in boosting trade with Canada is to buy timber.

Finland is now its principal non-Communist source, and available supplies are inadequate.

Thus the state trading authorities are looking westward, and are striving to push their exports of machinery, optical goods and other manufactures into Canada to win dollars for future purchases.

According to reports, the Canadian Government views favorably closer commercial ties with this country, and is considering staging a collective exhibition at Leipzig next year, similar to those already sponsored at the Poznan Fair in Poland and at Brno in Czechoslovakia.

Such heightened western interest in the fair contrasts sharply with the situation a few years ago, when it was eyed warily or shunned completely by most big firms.

Then the East German promoters rejoiced at the presence of a handful of book exporters and herring merchants from the outside world.

This time Leipzig has really won its spurs as an international trade centre.

The Federation of British Industries spread an umbrella over more than 100 U. K. exhibitors to give it the final touch of respectability.

The list of manufacturers included names like **English Electric, Hawker Siddeley Brush, I.C.I., Massey-Ferguson** and **Pye.**

Record participation on twice last year's display area was prompted by encouraging trade prospects with East Germany under its renewed agreement with the federation, which provides for a $20 million turnover in 1960.

U. K.'s steel industry came to Leipzig en masse for the first time, with **Richard Thomas** and **Baldwins, Firth Cleveland** and **G.K.N.** among those taking part.

Most companies were pleased with results and received at least token or pilot orders.

The East German buying authorities, aside from being genuinely interested in fostering U. K. trade, were clearly striving to promote good relations with the aim of eventual governmental recognition of their politically ignored country.

An even greater triumph for the East Germans was the uninhibited showing made by the Federal Republic, despite the fierce frowns of Dr. Adenauer.

Over 1,500 firms were represented, led by the entire heavy industry from the Rhineland, Ruhr and Saar, including **Krupp, Mannesmann, Röchling** and **Demag.**

The successors of **I. G. Farben** were there, and **Siemens** and **AEG** were among the 150 West German companies making their initial appearance at the fair since the war.

"No big enterprise can any longer afford to give Leipzig the go-by," enthused a spokesman for **Daimler-Benz.**

"Here not only half the world, but the whole world is getting together."

Leading steel barons like Krupp and Mannesmann responded eagerly to eastern proposals for a long-term contract to boost deliveries and ensure a stable market.

They spoke of forming a "Steel Council" to link suppliers in the western part of their divided land with traditional consumers in the east.

There were even suggestions that the powerful Verein Deutscher Maschinenbau - Anstalten (VDMA), the Union of German Machine Builders, was considering skipping its annual Hanover Fair in favor of Leipzig, and advising its members accordingly.

In the machine tool section, West German and other western manufacturers crowded out East German exhibitors to occupy nearly half the special hall.

Here another postwar first was the presence of a U. S. company, **New Britain-Gridley,** whose machines are partially built or assembled in France and Switzerland and thereby escape U. S. export restrictions.

Looking ahead, East Germany intends nearly to double the area of this hall by 1963.

It is banking on the growth of both the industrial and the market potential of the Communist bloc to turn a major sector of the Leipzig Fair into a machine tool show of international standing.

East German optimism for the future stems from the ambitious production and foreign trade targets set for 1965, the end of the current seven-year plan.

Over-all industrial output is scheduled to rise 88% during this period, with trade more than doubling to equal $5,500 million turnover.

Of the latter, $1,400 million is planned for exchanges with non-Communist countries.

This expansion was reflected in the advanced technical exhibits and export offerings at the Leipzig Fair, as was the emergence of an important political as well as economic factor on the European scene.

THE INVESTMENT FUNDS

Investors Growth Fund Adds to Common Holdings

Investors Growth Fund of Canada Ltd., Winnipeg, net assets at Jan. 31, 1960 amounted to $40,960,052, an increase of 5.9% from $38,682,499 reported three months earlier.

Net assets per share were down 3.2% to $5.81 from $6 at October 31.

Common stock accounted for 88.8% of net assets (87% at Oct. 31); preferred stocks 1.7% (1.9%); bonds, 6.3% (6.7%), and cash, etc., 3.2% (4.4%).

During the quarter, the fund increased its holdings of 18 common stocks. Five of these were U. S. issues and the balance included **Hudson Bay Mining & Smelting Co., International Nickel Co.** and **Gatineau Power Co.**

Four new common stocks purchased were all U. S. companies.

Holdings of **Crown Zellerbach Canada Ltd.** "A" were reduced and **Massey-Ferguson Ltd.,** 5½% preferred eliminated.

Here are the changes for the three months in detail:

	Amount held Jan. 31 1960	Change since Oct. 31 1959
	—shares—	
Preferred		
Reynolds Metals, 4½%	5,385	+1,085
Massey-Ferg., 5½%	nil	—2,195
Common		
Ford Motor Co.	10,000	+4,000
Bristol Myers Co.	4,100	+1,100
du Pont de Nemours	5,500	+1,000
Merck & Co.	4,300	+4,300
Parke Davis & Co.	3,300	+3,300
Geo. Weston B	9,610	—150
Hiram Walker G & W	10,000	+400
Montgomery Ward	7,900	+7,900
Aluminium Ltd	15,200	+1,200
Hudson Bay M & S	12,000	+5,000
Intl. Nickel Co.	19,000	+3,000
Int'l. Business Mach.	400	+200
Imperial Oil	20,100	+10,900
Gatineau Power	10,000	+5,025
N. Ont. Nat. Gas	34,800	+6,300
Abitibi	18,975	+8,700
Crown Zeller. A	3,875	—550
Howard Smith Paper	15,875	—900
Algoma Steel	32,000	+5,000
Armco Steel	9,500	+2,500
Steel Co.	15,700	+2,500
Interprov. Pipe	21,250	+5,400
Colgate-Palmolive	7,100	+7,100

A Rocket is Born on Paper

IT WAS in the early forties, when Harold Atkins, then a young sports writer, began to notice a rising young star named Maurice Richard, playing with the Montreal Canadiens hockey club.

"You could see he was going to be a great player," Atkins recalled. "He had tremendous strength, could carry three men on his back and still drive home a goal. He worked from the blue line in, unlike Howie Morenz, who came all the way down the ice. But what impressed me most were his bursts of tremendous speed — he would literally explode across the ice."

At that time Germany was bombarding Britain with V-2 buzz bombs, and everyone was talking about rockets.

"The analogy was too obvious to miss," says Atkins. "In the next story I wrote about this hockey meteor, I called him The Rocket."

The Rocket he became to everybody and thus was born probably the best known name in the history of Canadian sports. Today, sports editor-columnist Harold Atkins of The Montreal Star spends more time directing his staff of sports experts to make sure that no sport is left uncovered than he does trying to create history-making names.

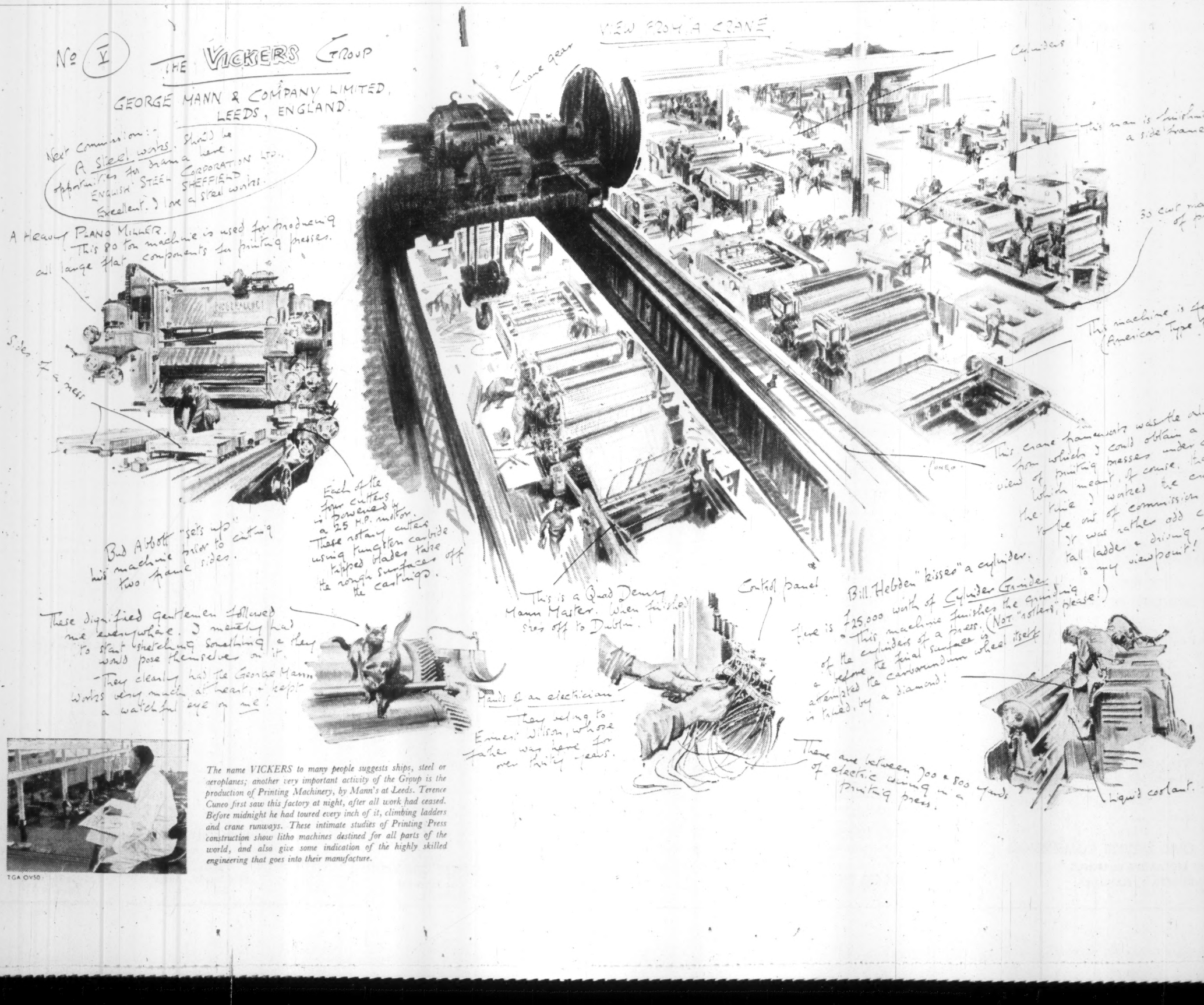
Looking back over the years, Atkins can remember two of his most thrilling assignments.

"One was the funeral of Howie Morenz," he said, "when 14,000 men, women and children jammed The Forum for the memorial service. The other one was the night in 1944 when Maurice Richard scored five goals against Detroit, setting a new individual point record for modern national hockey league play."

Atkins, 45, is a young veteran with 26 years of newspaper experience behind him. Married and the father of two children, he was educated at various Montreal high schools, McGill University and Sir George Williams College. He began his sports writing in the early thirties. He joined The Montreal Star in 1942 after working for the CBC, British United Press, The Canadian Press and The Gazette. He was appointed sports director of The Montreal Star in 1953 and was named sports editor in 1956.

Good reporting makes a good newspaper

The Montreal Star



TGA.OV50

The name VICKERS to many people suggests ships, steel or aeroplanes; another very important activity of the Group is the production of Printing Machinery, by Mann's at Leeds. Terence Cuneo first saw this factory at night, after all work had ceased. Before midnight he had toured every inch of it, climbing ladders and crane runways. These intimate studies of Printing Press construction show litho machines destined for all parts of the world, and also give some indication of the highly skilled engineering that goes into their manufacture.

The Financial Post

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Why So Many Flunk 'Big Job' Interviews

By LEN BROWN

If you are one of the thousands of university and high school graduates across Canada who will be pounding the sidewalks and knocking on doors this spring in search of a job, put down this article.

Go to the mirror and take a good look at yourself.

How would you measure up in an interview for a job? When did you last have the suit you wore today pressed? Do you occasionally forget to shave?

Are your fingernails caked with dirt? Do you mumble when you speak to people? In conversing do you say "between you and I" instead of "between you and me"?

You may not know it, but the sloppy manner in which you're flicking the ashes off that cigarette you're smoking right now might cost you a $4,500-a-year job if you did the same thing in an interview.

These are only a few of the disastrous mistakes that bar many graduates from promising careers every year, and experienced interviewers watch you closely for these glaring errors.

Here are some of the things employers from leading national and international companies in Canada say applicants should check before even thinking about showing up to be interviewed for jobs:

M. J. Brandt of **Consumers' Gas** in London, Ont., who hires 50 university graduates every year, said:

"A well-groomed appearance is a major part of any job, and any applicant who turns up in my office for a job with baggy pants and a wrinkled coat will be lucky if he gets five seconds of my time. Especially if he is a university graduate; he should know better."

Interviewers do not require flashy dress, or even the traditional conservative business suit.

But they all insist on a tie, coat and pressed trousers.

(This writer purposely wore an open-necked bright-colored sport shirt and sport coat to test reaction for the purposes of this article and, whenever the subject of dress was brought up, was bluntly told he would never get a job if he were similarly dressed for an interview.)

Appearance isn't everything.

If you have graduated at the top of your class with an A, you will be shocked to know that your fellow-student who barely scraped through with a C may stand a better chance of getting a job than you.

P. J. Larter of **National Cash Register** frankly admitted that brilliant marks could be a hindrance to the job seeker.

"Willingness to work with others and team spirit," he said, "are more important to us than academic brilliance. You simply can't place the eccentric."

Other interviewers, however, say high intelligence is an asset, but not a necessity or a hindrance.

They all emphasize, nonetheless, that co-operation and team spirit could weigh more heavily than brilliant academic performance at school.

What they want is a well-rounded personality.

"We want men who can handle people," an interviewer from **Shell Oil** says. "Ten-to-one, the student who can climb to the presidency of a students' council is made of executive stuff."

The student with only a passing grade, but who belongs to half-a-dozen clubs on the campus is a better prospect than his brilliant counterpart who sacrificed extracurricular activities for high marks.

And this isn't all.

D. W. Handford, of **Minnesota Mining & Manufacturing,** says a graduate's home life, his social profile, are factors that could weigh more heavily in his favor than unusual ability.

However, when you walk into an employer's room, you and you alone are being interviewed.

So if Dad is a $50,000-a-year engineer, and you are overwhelmed with the importance of this fact, don't try to share your good fortune with the interviewer.

Conversely, the applicant who says "my father is **only** a farmer," will be shown to the door immediately, the manager of a big public-owned company said.

Your socio-economic background is not a hindrance, and could be an asset in an interview if you're frank and honest about it.

D. W. Handford of 3M, who has more than 10 years' experience interviewing applicants, shook his head emphatically when asked if his judgment is swayed by a candidate's not too high socio-economic background.

"No," he replied, "when it comes to socio-economic background I am more leery of height than depth."

"Some splurge at the company's expense."

Interviewers look more favorably on graduates who have worked part of their way, or all of it through school.

"I don't care what he did, scrubbed floors or dug ditches, the man who worked his way through school shows initiative and independence," said an interviewer from **Canadian General Electric,** Toronto.

This interviewer and former university professor who hires about 450 students each year, and who spoke to a staggering total of 1,500 students last year, said:

"My opinion of a man drops to the floor like a piece of lead when he tells me his parents paid his way through school."

He tells the story of a college graduate who strode into his office last year with his coat draped around his shoulders opera-cloak style.

The applicant swung the coat off his shoulders with a theatrical flourish, placed one finger on the desk, and leaning over, looked him straight in the eye.

"What," he enquired, "can I do for General Electric? I can do anything in a lab."

After collecting his somewhat shattered wits, the interviewer excused himself and telephoned a professor who had taught the applicant.

"What can I do for General Electric?"

It turned out that as a student, this applicant had burnt nearly half of the lab equipment in his college career.

Such an approach is decidedly over-aggressive, and many a young man who puts on too confident an air, like the one above, does so at the expense of the job he's after, interviewers say.

Yet, while nervousness is definitely discounted in an interview, applicants who show a tendency to be easily flustered, do not create the right image in the interviewer's mind.

The employer from Canadian General Electric said he sometimes deliberately contradicts any statement an interviewer makes, then watches his man like a cat for his reaction.

"The man who can handle this type of situation reasonably well is the man we're looking for," he said.

In connection with reaction to situation, D. W. Handford of 3M in London describes what he admits is a sneaky trick in testing applicants.

After interviewing candidates, he might invite one or two of them to have a drink and dinner. Candidates by this time are lulled into thinking they are "in".

They relax all barriers. The more astute will have a drink or two and leave a favorable impression.

Others, however, not as astute, may decide to splurge at the company's expense. At this point separation of the proverbial sheep and goat takes place.

The applicant who exercises discretion will definitely stand a better chance.

Interviewers say also that college graduates should be on guard against bad grammar in speech, incorrect spelling in application forms, speaking up clearly and loudly in interviews, smoking when not invited to, being late for interviews (and not apologizing).

Applicants, they say, should show alertness in response and posture, ability to speak up well, and some evidence of good manners.

Some employers emphasize the importance of some knowledge of the company being applied to by graduates.

One graduate talked himself into a $5,000-a-year job, then out of it, when he couldn't give the brand name of a single product being marketed by the company he had applied to.

So take that long look in the mirror. Try to imagine how a tape-recording of your interview would sound.

If you have both eye and ear appeal and something worthwhile in the package, there is a good chance you will sell yourself to the company of your choice.

How Co-Ops Have Grown

GROWTH OF CO-OPERATIVES IN CANADA

Year	Number of Associations	Number of Members	Sales of Farm Products $	Sales of Supplies to Co-op Members $	Total Business including Other Revenue $	Members' Equity $	Value of Plant $
1932	795	379,687	134,611,154	10,665,503	145,303,000	.....	45,607,366
1940	1,151	450,453	214,293,359	21,129,822	236,322,000	54,260,415	38,265,055
1946	1,953	926,863	454,564,900	95,603,300	454,564,000	92,445,174	46,775,158
1957	2,876	1,628,362	817,601,000	283,730,446	1,152,379,000	219,830,649	144,179,000
1958	2,882	1,592,694	895,327,000	296,492,000	1,244,558,000	222,105,000	156,554,000

Source: Co-operation in Canada; Dept. of Agriculture.

What can they do about taxing big co-operatives?

It's a political hot potato, but it looks as though Ottawa and Washington will have to handle it . . .

By J. K. EDMONDS

The politically touchy question of taxing co-operatives has come up again in both Ottawa and Washington.

In Canada, the Chamber of Commerce and other groups making pre-budget presentations to the Minister of Finance have pressed for a new review of the co-ops' position in relation to other taxpayers. In the U. S., the President's budget message asked for new taxes on co-ops, and the House Ways and Means Committee has begun hearings on the matter.

Co-op taxation is a topic both governments would prefer to sweep under the rug, especially with an election certain this year in the U. S. and possible next year in Canada. But under current conditions the problem won't stay out of sight, because:

- **With capital scarce** and costly, the co-ops' ability to retain tax-free earnings (by "allocating" patronage dividends instead of paying them in cash or notes) gives them an advantage over competitors in financing growth.
- **A "managerial revolution"** in the co-op field has been replacing the traditional co-operative with a big, brisk, efficient operation directed by a sophisticated management team.
- **Recent rapid growth of co-ops** (see table) raises the possibility of a cut in tax revenue sources as more and more business moves into the co-op column; with both Canadian and U. S. governments scratching for every nickel of revenue they can get, it may become difficult to ignore the loss of tax revenue involved in giving special treatment to co-ops.
- **The growth gives point** to opponents' arguments that co-ops don't need special treatment in order to survive, and increases the number of ordinary business tax-payers who are concerned about competition from co-ops with special tax advantages.

No one is objecting to co-operatives in principle or to competition in general, the business groups stress. What individual proprietors and corporations do object to is competing against well-heeled and increasingly profit-minded co-ops who may pay as little as 10% on net earnings when their competitors pay 50%.

In particular, they ask that:

- **New co-operatives** get the same tax treatment as any new business — either by cutting out the provision that exempts co-ops from taxation for the first three years of operation, or by extending the same deal to other new business.
- **"Patronage dividends"** be deductible only if paid in cash.
- **The amount of co-op earnings** subject to tax as a return on capital employed be raised from 3% to a figure closer to current earnings on capital in other businesses.

Prime example of the advantages of co-op tax privileges are the four big wheat pools of Western Canada: **Manitoba Pool Elevators, Saskatchewan Wheat Pool, Alberta Wheat Pool, United Grain Growers** (UGG is not strictly comparable, since it has share capital).

They now own over 40% of Prairie elevator capacity, earn over $14 million a year from grain-handling and other activities, and have recently bought the elevator systems of **Ogilvie Flour Mills** and **Canadian Consolidated Grain Co.**

According to a study by R. C. McIvor for the Canadian Tax Foundation, the four pools paid income taxes of about 13% of net earnings in 1957. If United Grain Growers (which has share capital) is excluded, this percentage drops to 10%.

McIvor comments: "There can be little doubt that Canadian income tax provisions have created financial (and therefore competitive) disadvantages to the private companies."

Co-Op Members

Year 1959	Number of Members by Provinces
B.C.	95,187
Alberta	254,936
Saskatchewan	530,678
Manitoba	140,416
Ontario	251,438
Quebec	138,834
N.B.	20,967
N.S.	33,205
P.E.I.	5,524
Newfoundland	7,691
Interprovincial	113,818
Total	1,592,694

Besides handling grain, the pools also: Own and operate a flour mill, a vegetable oil processing plant, a newspaper and commercial printing plant, and three office buildings, two of which rent space to outside tenants; buy and sell seed and feed, coal and chemicals, livestock and insurance. A recent capital investment by the Alberta Pool: an eight-story office building in Calgary for $2.5 million. Total investment in plant, machinery and equipment for the four pools: $117 million.

The fight between the pools and the line elevator companies is an old story. What's new is the growing diversification of pool investments and the shrinkage in private capital invested in grain-handling as line elevator companies sell facilities to the pools.

Also new is increased support from businessmen in other fields for measures to cut the co-ops tax advantage. Up to now, concern about co-op competition outside the grain business has been limited by a strong and well-founded feeling that co-ops had special management problems that offset the advantage of special tax treatment.

"Trying to run a business with a thousand bosses and no clear line of control is something I wouldn't wish on my worst enemy," says a western businessman, "and your tax advantages don't do you any good unless you do make a profit."

What's changing this attitude is the "managerial revolution" in the co-ops. The small, local co-op is vanishing, especially in Western Canada.

In its place is the large-scale operation with so many shareholders that old-style patron-control is physically impossible, managed by a profit-minded, financially sophisticated team on a management contract, and plowing back "allocated dividends" into rapid growth.

An example: **Red River Co-op Supermarket** in Winnipeg, which has plunged successfully into the fierce battle of the supermarkets now going on in Western Canada.

Another example: **Federated Co-operatives Ltd.,** a Saskatoon wholesale, with 1959 sales of $61.6 million, up 13% from 1958, and "savings available for allocation to members" of $4.2 million (up 33%). In the works at the moment is a merger with **Alberta Co-op Wholesale** (1959 sales, $6.95 million).

Old-line co-op supporters are worried about this trend to the big, brisk, business-like co-op. In a submission to the Saskatchewan government earlier this year, the Saskatchewan Farmers Union complained that the conception of co-operatives as associations of little people to protect themselves against a few big ones had apparently been lost and replaced by a concept of business for business sake.

Key point at issue is the difference between "service to members" (which means that if Joe Doakes gets credit, John Smith must get it too) and "selective operation" (which means that John Smith gets his credit only if he's as good a risk as Joe Doakes).

Besides the tax question — which no one seriously expects the government to do anything about soon — Ottawa may have to deal with the recommendation of the Royal Commission on Food Price Spreads to the effect that a federal charter for co-ops should be available.

If any move is made to act on that recommendation, both the tax problem and the question of the aims and objects of a co-op will get another airing.

Co-Op Sales Rising

	CO-OP SALES 1958 $	1957 $	1947 $
Food products	81,924,000	74,967,041	27,933,952
Clothing & home furn.	9,659,000	9,397,480	3,857,771
Petroleum & auto access.	52,275,000	47,414,402	14,671,057
Feed, fertilizer, spray	100,817,000	100,272,439	53,438,346
Machinery & equipment	8,732,000	10,431,976	1,680,228
Coal, wood and building materials	17,319,000	22,430,626	8,034,153
Shelf hardware, elec. equipment & supplies	25,766,000	18,816,482	*
Dairy products	185,989,000	166,131,000	83,233,972
Fruit & vegetables	42,917,000	29,746,187	44,205,752
Grain & seed	368,833,000	377,017,336	283,262,461
Livestock	248,781,000	199,848,542	91,593,252
Eggs & poultry	33,099,000	31,903,000	26,034,954
Honey	2,475,000	2,304,181	517,544
Miscellaneous	13,233,000	10,651,031†	67,176,260
Total Sales	**1,191,819,000**	**1,101,331,723**	**705,639,702**

*Not available. †1947 figure includes tobacco.

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	OLD RATE PER LB.	NEW RATE PER LB. Effective Apr. 1st.
Leather & leather goods	97¢	40¢
Cloth & textile manufactures	58¢	37¢
Shoes & slippers	58¢	36¢
Automobiles & agricultural machinery & parts	45¢	36¢
Pottery, chinaware, earthenware, crystalware, porcelain, glassware	97¢	41¢
Radio, TV, phonographs, household appliances & parts	63¢	40¢
Scientific, precision, dental & surgical instruments & parts	97¢	41¢

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Business Across Canada

HOW'S BUSINESS? That's the big question right across the country. This regular FP feature helps to answer it for businessmen everywhere, by comparisons for representative cities coast-to-coast.

This table shows figures for December, 1959, the latest complete month available. Despite the time lag, the comparisons are valuable indicators of each area's business health.

	Average Weekly† Wages and Salaries $	COMPARISONS DECEMBER, 1959-DECEMBER, 1958 Average Wkly. Wages and Salaries Changes %	Employment Indexes Change %	Consumer Price Indexes Change %	Value of Building Permits Change %	Housing Starts 12 Mos. Jan.-Dec. Change %
St. John's	51.03	+2.4	+4.6	+1.8	—8.9	—46.1
Halifax	58.89	+4.6	—0.8	+2.4	+18.0	+12.2
Saint John	55.44	+3.4	+4.9	+1.9	+59.5	—8.8
Quebec	61.19	+6.9	+4.1	....	—34.2	—3.7
Sherbrooke	56.87	+4.9	+2.3	....	+64.6	+72.5
Trois Rivieres	66.38	+13.1	+5.9	....	—16.1	—2.7
Montreal	70.92	+6.2	+2.3	+1.4	—32.8	—20.1
Ottawa-Hull	66.38	+4.9	+2.0	+1.4*	+4.8	—5.9
Toronto	74.91	+3.7	—0.9	+0.8	—29.6	—22.8
Hamilton	80.44	+6.1	+4.3	....	+37.0	—7.5
St. Catharines	80.80	+8.3	+7.8	....	—59.4	+9.6
Brantford	68.19	+5.5	—2.7	....	—55.3	+28.4
Kitchener	67.26	+7.8	+5.0	....	+9.6	+4.7
London	67.83	+4.7	+2.5	....	—70.3	—3.5
Windsor	80.66	+9.9	+0.1	....	—79.4	—35.5
Ft. William-Pt. Arthur	73.48	+4.0	—6.8	....	—66.9	—26.6
Winnipeg	66.56	+5.7	+1.3	+1.1	+74.8	+20.6
Regina	68.07	+6.3	+5.9	+1.1‡	+65.4	+36.2
Saskatoon	67.00	+5.4	+3.4	....	—91.4	+10.0
Edmonton	69.01	+3.9	+3.5	+1.3‡	—10.2	—31.0
Calgary	70.91	+5.7	+3.4	....	—40.6	—6.3
Vancouver	78.50	+5.2	+2.7	+1.4	—29.4	—22.7
Victoria	70.98	+5.1	—4.1	....	—31.9	—17.2

Notes: (1) † Industrial composite on Dec. 31, 1958
(2) * Ottawa only.
(3) ‡ Joint indexes for Regina-Saskatoon and Edmonton-Calgary.
(4) Blanks indicate figures not available.
(5) Sources: DBS reports.

Railways Order Aluminum Tank-Hoppers for Testing

MONTREAL (Staff) — Aluminum is off on another hunt for big-tonnage markets in railway rolling stock.

This typifies the drive by aluminum-makers — with Canada's **Aluminium Ltd.** one of the leaders — to displace many materials in traditional uses.

The latest:

Two Canadian railways each are ordering two prototype aluminum tank-hopper cars.

Presumably, good experience in testing will lead to big orders.

The buyers are **Canadian National Railways** and **Roberval & Saguenay Railway,** a subsidiary of **Aluminum Co. of Canada,** which is an Aluminium Ltd. subsidiary.

Marine Industries Ltd. will build the CNR cars. R&S hasn't announced its builder.

The car was developed by Alcan engineers working with the CNR.

Its capacity is 90 tons (80 for conventional cars) and it reportedly has lower maintenance and operating costs.

Alcan says the economics of the car are based on the increased payload. Nine aluminum cars could do the work of 10 old ones.

The new cars are expected to prove able to carry any of the hundreds of products now moving in covered hopper cars.

In addition certain other items ordinarily needing protective linings can be carried.

Quantity of aluminum used in each car wasn't announced.

In other parts of the world, for rolling stock of similar nature, tonnage of aluminum per car varies widely up to 11 tons.

The new tank-hopper has a light weight of 31,000 lb. compared with 51,000 lb. for an equivalent steel car.

Makers of the light metal are also hopeful about use of their product in refrigerator cars (FP, Oct. 18, 1958).

Five all-aluminum refrigerator car have been in use by CNR since late 1958.

This testing is expected to lead to new orders in Canada and abroad.

New Highs and Lows

In the week ended March 19, two new highs and 49 new lows were registered by general stocks listed on Canadian stock exchanges. In the mining group there were four new highs and 47 new lows. Western oils had two new highs, eight new lows.

GENERAL

NEW HIGHS — 1959-60

B.C. Turf — Crush Int. 6% pfd.

NEW LOWS — 1959-60

B.C. Elec. 4¼% pfd. — Loblaw Groc. 2nd pf.
Can. Packers 'B' — Loblaw Inc.
Cdn. Brew. pfd. — London Has. 'A'
Cdn. Curtiss-Wr. — Mass.-Ferg. 4½% pf.
Cdn. Fairb. 'A' — Do. 5½% pf.
Do. 'B' — Mont. Trust
Cdn. Indust. — Nat. Steel Car
Cdn. Oil 5% pfd. — Penmans
Cdn. Utilities pf. — Prem. Iron Ore
Cdn. West. Gas — Price Bros.
5½% pfd. — Slater, N.
B. J. Coghlin — Sobeys Stores 'A'
Copp. Clark — Sogemines pf.
David & Fre. 'A' — Sun Publishing 'B'
Dom. Tar & Chem. — Sup. Propane warr.
Donohue Bros. — Tamblyn 4% pfd.
Fanny Farm. — Toronto Iron
Foundation Co. — Traders Fin. warr. '56
Fraser Cos. — Trans-Can. c.f. rts.
Gatineau 5% pf. — United Corp. 'B'
Gt. Lakes Pwr. — Vanadium All.
Do. warr. — Venezuelan 6% pfd.
Gt. West. Coal 'B' — Weston, G. 'B'
Gt. Winn. Gas 1956 warr. — Do. warr.
Interior Brew 'B' — Woodward 'A'

MINING

NEW HIGHS — 1959-60

Chromium — Que. Cobalt
McWatters — Renabie

NEW LOWS — 1959-60

Area — Hard Rock
Augustus — Headway
Barymin — Hayle
Beatrice — Int. Molybdenum
Belcher — Irish Cop.
Bellechase — Kilembe
Baymar — Do. warr. 'C'
Carbec — Lorado warr.
Chess — Malartic
Chib. Jac. — Maybrun
Chib. Min. & S. — Midwest
Cons. Cent. Cad. — New Mylamaque
Cons. Gillies — N.W. Amulet
Cons. Que. Gold — Northspan warr.
Cent. Can. M. — Patino 'B' warr.
Copper Corp. — Pickle Crow
Cournor — Que. Smelters
Cowichan — Quemont
Crowpat — Stanleigh
Dolsan — Tourcanis
Eldrich — Temagami
Fano — Utd. Asbestos
Frobisher — Windfall
Goldfields

OILS

NEW HIGHS — 1959-60

Blue Crown — Cdn. Sup'r.

NEW LOWS — 1959-60

Anaconda — Gridoil
Asamera — North. Can. warr.
Bailey-Sel. 5¾% pf. — Quanto
Dom. Minerals — Westate

Company Reports

Mining

KERR-ADDISON GOLD MINES had a net profit of $5,088,796 in 1959 ($4,761,026 in 1958).

Record profit reflects higher grade ore which more than offset higher operating costs.

The increased recovery, ahead 41c a ton at $11.50, reflects higher tonnage produced from the higher-grade lower levels of the mine.

Operating costs climbed 11c a ton ($6.35 a ton) as result of wage increases, higher material costs, and increases in the assessment for Workmen's Compensation and silicosis.

Following completion of the sinking of the No. 4 internal shaft to 6,022 ft., installation of pumping, crushing, skip-loading, and other mining facilities has proceeded on schedule. Diamond drilling confirmed the location of the orezone on the 4,000 ft. level.

In outside exploration, Kerr maintained three prospecting parties in the field. In addition it participated in exploration of several claim groups with other companies. President W. S. Row states that this year the scope of outside exploration efforts will be increased.

INCOME ACCOUNT

Years Ended Dec. 31:	1959 $	1958 $
Total production	19,120,030	18,423,483
Less: Oper. exps.	11,439,007	11,228,313
Oper. profit	7,686,023	7,195,170
Add: Other inc.	393,948	277,521
Less: Deprec.	554,184	621,176
Income taxes	2,340,249	1,998,611
Outside expl. w/o	96,742	91,878
Net profit	5,088,796	4,761,026
Less: Dividends	3,784,242	3,784,242
Surplus for year	1,304,554	976,784

Note — Co. is claiming for income tax purposes depreciation in excess of that in accounts, thereby reducing taxes payable by $453,459 to Dec. 31, 1959, which amount has been deferred.

Earned per Share	$1.08	$1.01
Paid	0.80	0.80
Shares o/s as at Dec. 31:		
Common, $1 par	4,730,302	4,730,302

CONDENSED BALANCE SHEET

As at Dec. 31:	1959	1958
Cash & bullion	$1,559,628	$2,129,199
Short-term notes	1,896,103	1,144,680
Mktble. invests.§	7,685,018	5,411,469
Accts., etc., rec.	106,612	60,627
Total curr. assets	11,247,361	8,745,975
Mat. & supplies	1,557,006	1,990,509
Outside expl. exp.	61,271	34,746
Prep. & def. chgs.	109,964	104,409
Other assets	150,460	137,532
Claims—props.	1,245,993	1,245,993
Plant & equip.▲	3,486,230	3,694,556
Lands (surf. rts only)	72,670	72,670
Total assets	17,930,955	16,046,390
Accts., etc., pay.	1,087,186	914,385
Inc. taxes pay.	1,147,626	926,762
Other taxes pay.	693,537	643,948
Total curr. liab.	2,928,369	2,485,095
Prov., def. inc. tax	453,459	364,015
Capital stock	2,931,923	2,931,923
Earned surplus	11,617,204	10,265,357
§Market value	6,974,859	4,860,975
▲After depr. of	10,348,816	9,811,670
Working capital	8,318,992	6,260,880

OPERATING STATISTICS

	1959	1958
Tons milled	1,662,534	1,661,980
Average recovery	$11.50	$11.09
Ore reserves, tons*	9,641,937	11,634,067
Grade ($35 gold)	$13.68	$13.11

*Above the 3,950-ft. level.

TO SAIL SEAWAY

A new ship for St. Lawrence Seaway service, the Prinses Margriet, is being built in Holland by **Fjell Oranje Line.** Sister ship of the Prinses Irene, which went into service last summer, the Margriet will be of 8,533 gross tons with accommodation for 110 passengers. It will have provision for refrigerated cargo and wing tanks for vegetable and animal oils, and will enter service early next year.

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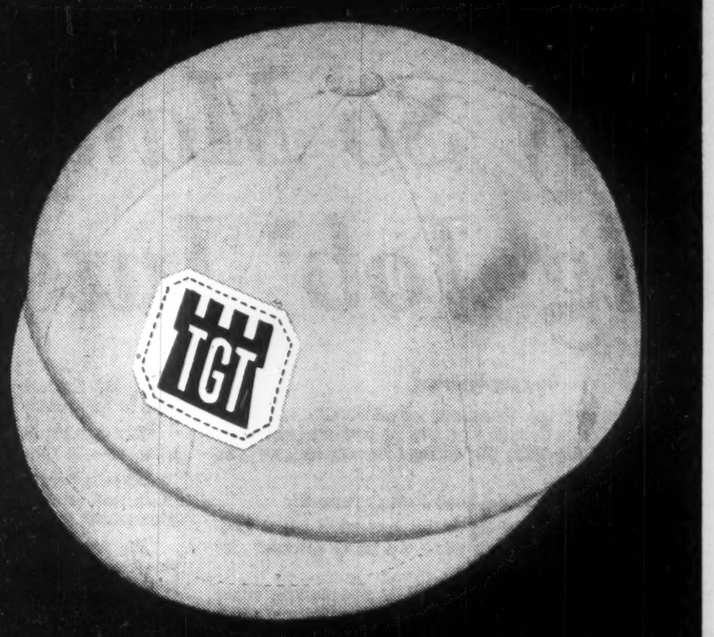

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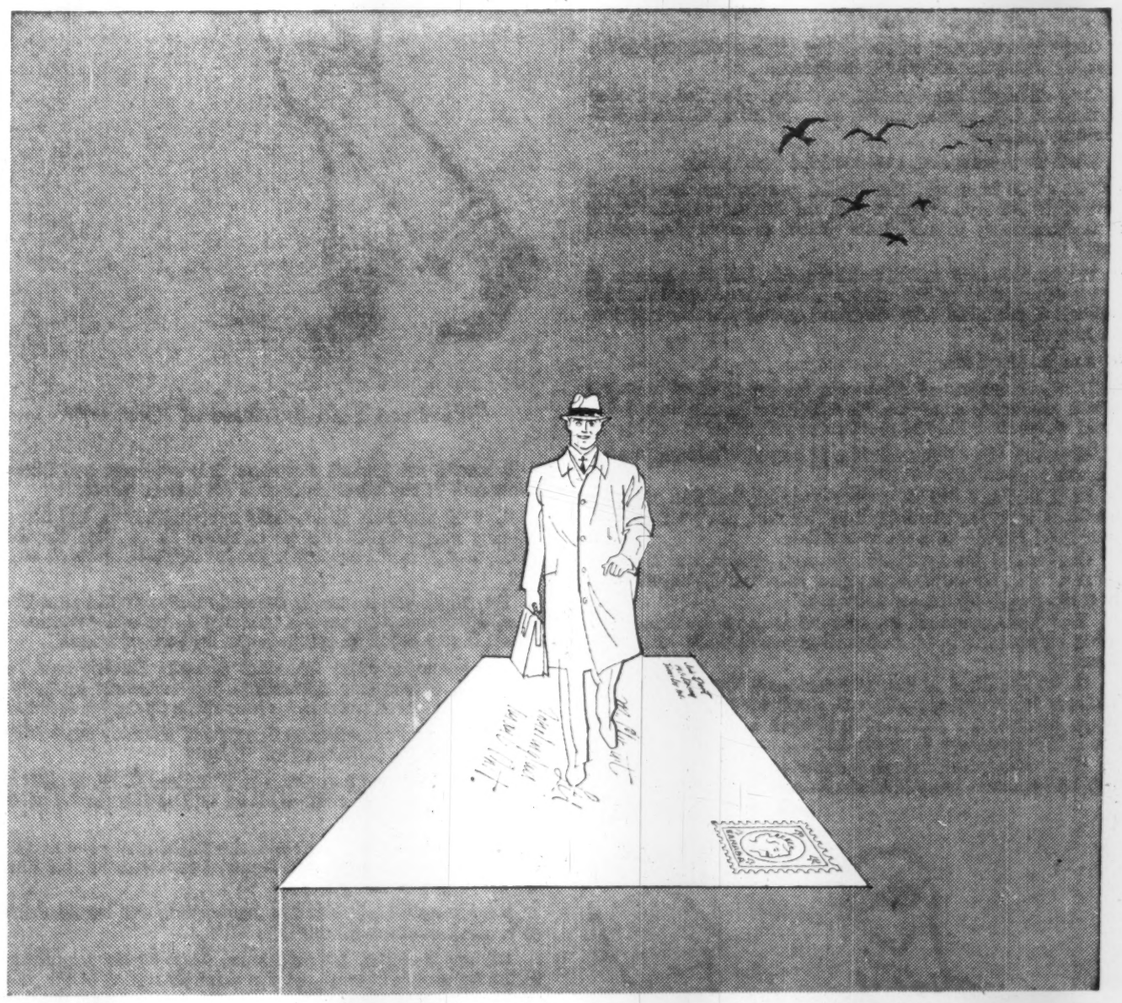

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Company Reports

Transportation

DETROIT INTERNATIONAL BRIDGE, Detroit, Mich., consolidated net profit of $784,828 for 1959 was 2.8% higher than 1958's net of $763,764.

Revenue from commercial vehicles increased 25% over previous year.

Administrative costs increased slightly and operating costs remained constant. Painting of the main span was almost completed.

CONS. INCOME ACCOUNT

Years Ended Dec. 31:	1959	1958
Gross toll rev.	$2,371,827	$2,240,371
Net earnings	1,377,145	1,316,167
Less: Deprec.*	4,199	5,889
Inc. taxes	588,118	546,514
Net profit	784,828	763,764
Less: Dividends	757,914	723,821
Surplus for year	26,914	39,943

*Office furn., fixt. and auto equipment.

Earnings per Share and Dividend Record:

Common†	$1.22	$1.18
Paid	1.05+0.15	1.00+0.15

†Based on shares held by public and reserved for bondholders.

Shares o/s at Dec. 31:		
Common, $1 par*	644,722	644,722

*Certificates held by public plus shs. reserved for unexchanged bonds and debs.

CONDENSED CONS. BALANCE SHEET

As at Dec. 31:	1959	1958
Cash	$417,520	$420,218
Accts. rec.	67,382	60,051
Prepaid chgs.	140,100	135,639
Total curr. assets	625,002	615,908
Fixed assets	3,174,131	3,168,504
Total assets	3,799,133	3,784,412
Total curr. liab.	365,202	373,632
Capital stock	660,000	660,000
Capital surplus	1,750,181	1,750,181
Earned surplus	1,135,106	1,111,035
Less: Treas. stk.	109,856	109,856
Working capital	261,300	242,856

Public Utilities

ANGLO-CANADIAN TELEPHONE CO., Montreal, consolidated net profit of $2,144,090 was 25% higher than 1958's net of $1,714,509.

In July, 1959, company sold an issue of 125,000, $2.90 preferred shares, $50 par, proceeds of which were used in part to repay short-term bank loans. Loans totaling $1.8 million at 5¾% were made late in the year for further advances to subsidiaries.

Income of **British Columbia Telephone Co.,** in which company holds 35.9% interest showed considerable improvement, President T. A. Boyd reports. Results are not consolidated. Improvement was due mainly to the rate increase effective Jan. 1, 1959.

Company's equity in year's surplus of B.C. Telephone amounted to 78c per class A and deferred shares.

Company acquired an additional 107,574 common shares of B.C. Telephone at $34 per share, through exercise of rights offered in January, 1959. This maintained company's percentage interest in B.C. Telephone.

Increase in B.C. Telephone's dividend to 55c from 50c per share in the last quarter of 1959, would, on an annual basis produce an additional income of $108,000 to Anglo.

Outlook for demand for telephone service, together with expanded marketing and sales program, indicate favorable continued growth for B.C. Telephone in 1960.

Wholly owned subsidiary, **North-West Telephone Co.,** increased its net profit to $373,000 in 1959 from $200,000 in the previous year. Anglo subscribed for 400,000 shares of ordinary stock of this subsidiary at $6.50 a share. Proceeds were used to redeem $2.6 million short-term notes held by the parent.

Increased rates, which became effective Jan. 1, 1960, will provide additional toll and exchange revenue of $221,000 annually.

Dominion Directory Co., wholly-owned, recorded a net profit of $187,000, a decrease from $214,000 in 1958. Lower income resulted from income tax adjustment and revisions in the amortization of directory expenses. Dividends declared totaled $152,500 ($150,000 in 1958). Improved earnings are indicated for 1960.

Another subsidiary, **Canadian (B.C.) Telephone & Supplies Ltd.,** had net income of $179,000 ($188,000 the previous year). Dividends of $157,500 were paid in both years.

Net income of **Cia Dominicana de Telefonos** increased approximately 10%. Demand for telephones continued but international and domestic toll revenues decreased. Construction was financed by short-term notes from the parent.

In January, 1959, 40% of the existing capital of this subsidiary was offered to Dominicans under terms of contract with Dominican government. The offer will remain open for seven years. The offer has been acknowledged but not yet accepted. Under the contract, Dominican government also has the right to acquire the telephone, telegraph and radio-telegraph property and related assets and liabilities, at underlying book value, and including an amount of $2,279,205.

CONSOL. INCOME ACCOUNT

Years Ended Dec. 31:	1959	1958
Net income	$4,478,902	$3,699,024
Less: Deprec.	888,186	687,017
Inc. taxes	716,418	523,725
All int. & amort.▲	680,208	642,039
Loss on exchange	.....	78,734
Subs. pfd. divds.	50,000	53,000
Net profit	2,144,090	1,714,509
Less: Pref. divds.	463,333	281,250
Cl. A divds.	584,520	584,520
Defer. stk. divds.	120,000	120,000
Surplus for year	976,237	728,739
▲After chg. to const. of	97,440	39,384

Note—For tax purposes co. is claiming additional capital cost allowances on which tax deferred amounted to $1,347,639 at Dec. 31, 1959.

Earnings per Share and Dividend Record:

Pref.: Earned	$8.58	$13.72
Paid: 4½% Pref.	2.25	2.25
Paid: $2.90 Pref.	▲0.97	.....
Cl. A: Earned*	3.45	2.94
Earned†	2.62	‡2.26
Paid	1.20	1.20
Def.: Earned†	2.02	‡1.66
Paid	0.60	0.60

*Before (after) participation provision. ▲Initial. ‡Earnings per sh. on cl. A stk. amtd. to $2.38 and on deferred stk. to $1.78 per sh. before deducting exchange loss.

Shares o/s as at Dec. 31:		
4½% Pref., $50 par	125,000	125,000
$2.90 Pref., $50 par	125,000	.....
Class A, $10 par	487,100	487,100
Deferred, $10 par	200,000	200,000

CONDENSED CONS. BALANCE SHEET

As at Dec. 31:	1959	1958
Cash & govt. bills	$1,703,274	$1,302,314
Accts. rec.	863,432	771,619
Due from oth. cos.	876,309	7,565,472
Mat. & supplies	1,776,468	1,608,396
Prepd. exps.	142,339	103,862
Total curr. assets	5,361,822	11,351,663
Invests.	20,042,934	16,385,419
Def. charges	480,124	299,988
Fixed assets▲	21,068,481	16,192,142
Total assets	46,953,361	44,229,212
Bank loan	5,300,000	3,500,000
Accts., etc., pay.	2,134,417	8,386,246
Total curr. liab.	7,434,417	11,886,246
Funded debt	5,980,000	6,240,000
Funded debt of subs.	1,500,000	1,500,000
Def. income tax	1,347,639	939,215
Conting. res.	689,199	651,041
Other reserves	251,611	254,481
Capital stock	19,371,000	13,121,000
Pfd stk consol. subs.	1,000,000	1,000,000
Surplus	9,379,495	8,637,229
▲After res. of	3,210,963	3,015,660
Working capital▲	2,072,595	534,583

▲Excess of curr. liabs. over curr. assets.

Paper

DONNACONA PAPER CO., Quebec, consolidated net profit of $1,295,841 for 1959 was just below 1958's net of $1,297,385.

CONSOL. INCOME ACCOUNT

Years Ended Dec. 31:	1959	1958
Net earnings	$3,507,794	$3,518,416
Less: Depr. & depl.	814,643	853,301
Bond interest	140,934	153,782
Income tax res.	1,253,709	1,211,281
Pat. rights w/o	2,667	2,667
Net profit	1,295,841	1,297,385
Less: Com. divds.	379,532	379,532
Surplus for year	916,309	917,853

Times Bond Interest Earned:

Before deprec. & depl.	24.89	22.88
After deprec. & depl.	19.11	17.33

Earnings per Share and Dividend Record:

Common	$3.41	$3.42
Paid	1.00	1.00

Shares o/s as at Dec. 31:		
Common, n.p.v.	379,532	379,532

CONDENSED CONS. BALANCE SHEET

As at Dec. 31:	1959	1958
Cash	$68,769	$483,735
Accts. rec.	1,479,054	1,506,341
Inventories	4,190,717	5,466,396
Due parent co.	4,577,564	.....
St. invests.	2,500,000	4,749,433
Total curr. assets	12,816,124	12,205,907
Prepaid exp.	172,496	84,989
Misc.	134,783	150,550
Fixed assets†	10,044,675	10,401,478
Total assets	23,168,078	22,842,924
Total curr. liab.	1,586,522	2,012,677
1st mtge. bonds	4,022,500	4,187,500
Capital stock	2,181,860	2,181,860
Surplus	15,377,196	14,460,887
†After depr. & depl. of	17,693,919	17,002,884
Working capital	11,229,602	10,193,230

Salt

CANADIAN SALT CO., Montreal, net profit of $408,176 for 1959 was 4.8% lower than 1958's net of $428,840.

Volume and value of sales increased. The use of rock salt for ice control continued to increase sale of that product.

Additions to fixed assets totaled $228,514, including the continued development of natural gas reserves at the Lindbergh, Alberta Works.

Canadian Rock Salt Co.'s second mine shaft at Ojibway was completed. An additional $528,000 was expended on this project.

The new mine of **Malagash Salt Co.** at Pugwash, N.S. officially opened in November, 1959. Development is expected to continue until mid-1960, before normal production commences.

The high rate of transmission established in 1959 at **Canadian Brine Co.** is expected to continue.

President D. Peterkin, Jr., anticipates that sales of evaporated salt and rock salt will show moderate increases in 1960.

INCOME ACCOUNT

Years Ended Dec. 31:	1959	1958
Gross profit	$2,586,140	$2,412,674
Less: Oper. exp.	1,341,438	1,149,220
Oper. profit	1,244,702	1,263,454
Add: Misc. inc.	21,756	43,988
Net earnings	1,266,458	1,307,442
Less: Deprec.	310,577	341,354
Amort.	12,180	12,906
Int. on fund. debt	134,127	141,642
Taxes	401,398	382,700
Net profit & surp.	408,176	428,840

Earnings per Share and Dividend Record:

Common	$1.63	$1.72
None paid		

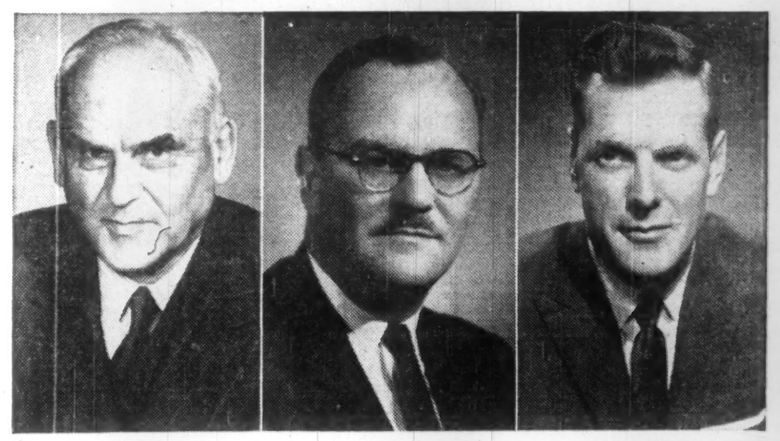
Shares o/s as at Dec. 31:		
Common, n.p.v.	250,000	250,000

CONDENSED BALANCE SHEET

As at Dec. 31:	1959	1958
Cash	$675,044	$302,673
Invests.†	63,575	63,575
Accts. rec. less res.	2,382,984	1,870,391
Invent.	956,437	710,776
Prepd. exp.	35,693	44,657
Total curr. assets	4,113,733	2,992,072
Inv. & adv. in subs.	632,356	1,161,859
Fixed assets‡	2,090,891	2,172,954
Other assets	86,250	98,430
Total assets	6,923,230	6,425,315
Accts. pay., etc.	794,174	627,433
Inc. tax	218,259	236,851
Due to sub.	377,420	320,830
S.f. payment	62,580	.....
Total curr. liab.	1,452,353	1,185,114
Funded debt	2,727,500	2,905,000
Capital stock	915,000	915,000
Earned surplus	1,828,377	1,420,201
‡After depr. of	2,947,241	2,664,756
†Market value	60,100	63,300
Working capital	2,661,380	1,806,958

ANNOUNCEMENT

CATELLI APPOINTMENTS



C. D. HOWE J. P. TALBOT, C.A. K. J. FORBES

Mr. Paul Bienvenu, President of Catelli Food Products Ltd. announces the following appointments: The Right Honourable Mr. C. D. Howe is appointed to the board of directors of Catelli Food Products Ltd. In addition to holding several important positions, Mr. Howe is also chairman of the board of The Ogilvie Flour Mills Company Ltd. Mr. J. P. Talbot, C.A., is appointed comptroller of Catelli Food Products Ltd. Having joined the company in 1951, Mr. Talbot was appointed secretary-treasurer in 1958 and will continue to perform his former duties. Mr. K. J. Forbes, who joined the company in 1954 and became vice-president of Catelli-Habitant Ltd. in 1958, is now appointed president of Catelli-Habitant Ltd.

Manitoba Seeking Bigger Tax Share

From Our Own Correspondent

WINNIPEG — Premier Duff Roblin has warned his Conservative colleagues at Ottawa that they needn't expect Manitoba to wait for "some unstated level of Dominion revenue" before it gets its just rights in federal-provincial tax sharing.

In his budget speech to the legislature Roblin said he hoped for improvement in 1961-62 but it would likely be 1962-63 before the province gets a bigger share of the taxation pool.

The province had stressed:

- **The need of the provinces** and through them the municipalities for a greater share of tax revenue available to the federal government.
- **Capital requirements** of provincial and municipal governments.

The Minister of Finance "had maintained his own budgetary position would not permit further 'concessions' to the province," Roblin said.

"This stand suggests that a province's entitlement to a share of taxation revenue is based on whether or not Canada feels she can afford it, he said.

"The provinces are not mere residual partners in the Canadian Confederation.

"Manitoba can't accept the implication that we must wait for some unstated level of Dominion revenue before we receive recognition of our just rights."

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H. P. SKOGLUND, *President*

Skog says...

"The strangest people sell you insurance"

When children sing their little skipping song about, "Tinkers, tailors, soldiers, sailors," I can't help a side glance at our list of NALAC representatives. Not only is their wide variety of backgrounds noteworthy, but I am astonished by the success in our business of those who are trained teachers, lawyers, social workers and the like.

Why is this so? Like any other profession, selling insurance is a calling. Not all are attracted to it, nor could all be successful at it. It involves a certain amount of training, but more important requires a genuine enthusiasm for helping others to solve their problems.

An outstanding career opportunity with our company awaits those qualified young men who are interested in this type of work, no matter what their present position may be. It's a satisfying profession, I can assure you from long experience. And best of all, the rewards are proportionate to the amount of effort that you put into it. Interested? Our local manager has any further information that you may need. Get in touch with him to arrange an interview.

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ANNOUNCEMENT

H. GREVILLE SMITH, C.B.E.

The election of H. Greville Smith, C.B.E., to the board of directors of The Shawinigan Water and Power Company is announced.

Mr. Smith is chairman of the board and chief executive officer of British Newfoundland Corporation Limited. He is also a director of a number of other companies, among which are the Bank of Montreal, Canadian Pacific Railway Company, Royal Trust Company and Steel Company of Canada, Ltd.

YOUR TAXES

An exclusive FP column of comment on the trends in personal and business taxation.

What Medical Services Cost, Not What You Paid, Tax Test

By JOHN G. McDONALD, LL.M.
McCarthy & McCarthy, Toronto

IN THESE days of hospital and medical insurance, one never knows exactly what is deductible for tax purposes. The rules change every year.

In the recent case, **Cortens v. Minister of National Revenue**, the taxpayer claimed the full amount of his medical bill received from PSI [Physicians' Services Inc.] member physician.

PSI does not pay the doctor the full amount of his bill to the insured patient. A discount is charged or held back as a reserve to cover the administrative cost of operating the PSI insurance system, and the member doctors suffer this charge with only a contingent right to any excess above the amounts required to finance the system.

Taxpayer Cortens argued that he had a bill for $546.50, and that was the amount he claimed as a medical expense deduction—even if the doctor received only $472.95 from PSI.

The Tax Appeal Board held that $472.95 was all that could be deducted, because that was all that was paid for the medical services provided.

In so holding, the board was undoubtedly correct.

But the judgment means that if you claim a medical expense deduction in similar circumstances, you are entitled only to the amount received by the doctor from PSI — not the amount billed to you.

* * *

Taxpayers who have filed objections to reassessments without receiving any notification or reassessment for six months, are now entitled to move in the Tax Appeal Board for summary allowance of their appeals.

The Revenue Department has been held not entitled to sit on pending "objection" cases for any longer period.

This ruling is found in the board decisions of **No. 685 v. Minister of National Revenue, Wright v. MNR**, and, earlier, in **Lawrence Superstein v. MNR** (FP, Jan. 30).

In all these cases, the reassessments were made after the statutory four-year time limit had expired and more than six months after the taxpayers' notices of objection had been filed in reply to earlier valid reassessments.

The board said: "It is only when a taxpayer has committed some fraud or made misrepresentations that his tax liability remains indefinitely."

Officers Report Their Holdings

Among the changes in security holdings reported by the U. S. Securities & Exchange Commission covering reports filed with the SEC between Jan. 11 and Feb. 10 by company officers, directors and large shareholders were the following:

They Bought

G. Baker, officer, bought 200 shares of **Algom Uranium Mines,** through exercise of option, representing his entire holding.

S. H. J. Belither, director, bought 300 shares of **Calgary & Edmonton Corp.,** increasing his holding to 8,300 shares.

Alexander Clark, officer, bought 100 shares of **Calgary & Edmonton Corp.,** representing his entire holding.

Charles O. Finley, director, bought 6,600 shares of **Canadian Javelin Ltd.,** increasing his holding to 110,785 shares.

Augustus Exploration Ltd. bought a total of 8,100 shares of **Faraday Uranium Mines** in March and June, 1959, increasing its holding to 974,076 shares.

A. H. Meadows, officer and director, bought 200 shares of **Fargo Oils Ltd.,** increasing his holding to 3,600 shares. **General American Oil Co. of Texas,** in which he has an interest, owns 2,182,126 Fargo shares.

H. R. Milner, director, acquired 206 shares of **International Utilities Corp.,** through private purchase, increasing his holding to 4,206 shares.

Robert Faegre, officer and director, bought a total of 1,000 shares of **Minnesota & Ontario Paper Co.,** in December, 1959, and February, 1960, increasing his holding to 2,500 shares.

Walter C. Forbach, director, bought a total of 5,300 shares of **Molybdenite Corp. of Canada,** in December, 1959 and January, 1960, increasing his holding to 33,600 shares.

W. C. Campbell, officer and director, bought 1,000 shares of **Nickel Rim Mines, Ltd.,** increasing his holding to 1,001 shares.

A. W. Johnston, officer and director, bought 1,000 shares of **Nickel Rim Mines Ltd.,** increasing his holding to 1,001 shares.

William McKee, officer and director, bought 1,000 shares of **Nickel Rim Mines Ltd.,** increasing his holding to 1,001 shares.

Compania de Bonos Acciones y Negocios Industriale. S.A. bought 1,000 shares of **Patino of Canada Ltd.,** increasing its holding to 759,067 shares.

They Sold

G. Baker, officer, sold 200 shares of **Algom Uranium Mines,** eliminating his entire holding.

R. E. Powell, director, sold 135 shares of **Aluminium Ltd.,** reducing his holding to 37,500 shares.

Howard Butcher III, officer and director, holds 4,000 shares of **International Utilities Corp.** in his own name. Trusts in which he has an interest sold 222 shares of the company, reducing their holdings to 4,979 shares.

Theodore S. Watson, director, holds 3,000 shares of **International Utilities Corp.** in his own name. **Investors & Traders Corp.,** in which he has an interest, sold 100 International Utilities' shares, reducing its holding to 9,000 shares.

Earl A. Killian, officer and director, sold 4,000 shares of **Jupiter Oils Ltd.,** reducing his holding to 72,500 shares.

L. B. Gibson Investments, in which **Laurence B. Gibson,** officer, has an interest, sold 1,000 shares of **Jupiter Oils Ltd.,** reducing its holding to 3,500 shares.

* * *

Changes in security holdings reported by the New York and American Stock Exchanges covering reports filed since Feb. 10 by officers, directors and large shareholders of companies listed on the exchanges included the following:

They Bought

Robert L. Reed, director, bought 3,000 shares of **Britalta Petroleum Ltd.,** increasing his holding to 61,659 shares.

Gene Tunney, director, bought 1,000 shares of **Brown Co.,** increasing his holding to 5,896 shares.

T. F. C. Frost, director, bought 1,000 shares of **Calgary & Edmonton Co.,** increasing his holding to 30,100 shares.

United Oils Ltd., bought 3,100 class B shares of **Home Oil Co.** increasing its holding to 832,006 shares.

Compania de Bonos Acciones y Negocios Industriales S.A. bought 500 shares of **Patino of Canada Ltd.,** increasing its holding to 759,567 shares.

They Sold

A. G. Bailey, officer and director, sold 2,500 class A shares of **Bailey Selburn Oil & Gas Ltd.,** reducing his holding to 21,501 shares.

George Weinschel, director, sold 10,000 shares of **Devon-Palmer Oils Ltd.,** reducing his holding to 13,601 shares.

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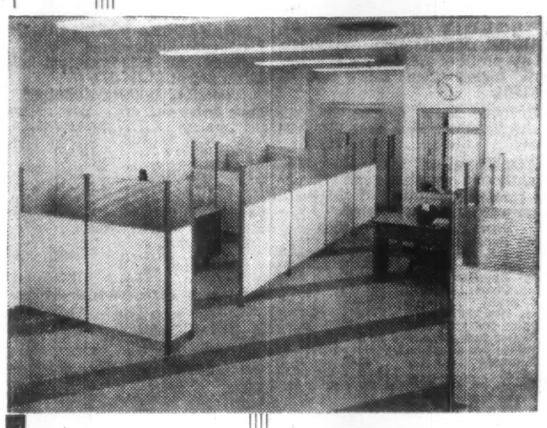

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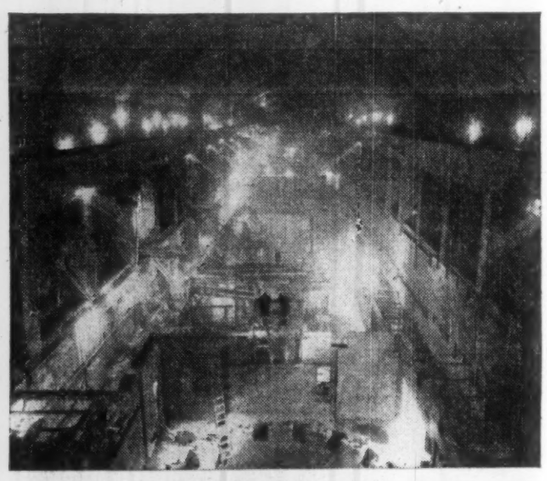
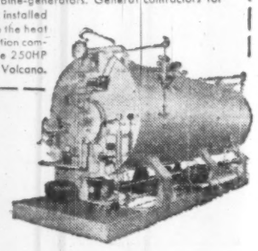


PACKAGED POWER* BY VOLCANO

ALCAN'S CHUTE-DES-PASSES POWER PROJECT
Heated by 12 Volcano Starfire Automatic Boilers

This is a view of the giant Alcan powerhouse, excavated in solid rock 450 feet underground, at Chute-des-Passes on the Peribonka River in Quebec, about 100 miles north of Lake St. John. It will house five of the world's largest turbine-generators. General contractors for this gigantic project, *Perini, McNamara, Quemont*, installed 12 Volcano automatic boilers on the site to provide the heat required during construction operations. The installation comprised five 125HP boilers, one 150HP boiler, three 250HP boilers, and three 300HP boilers — all built by Volcano.



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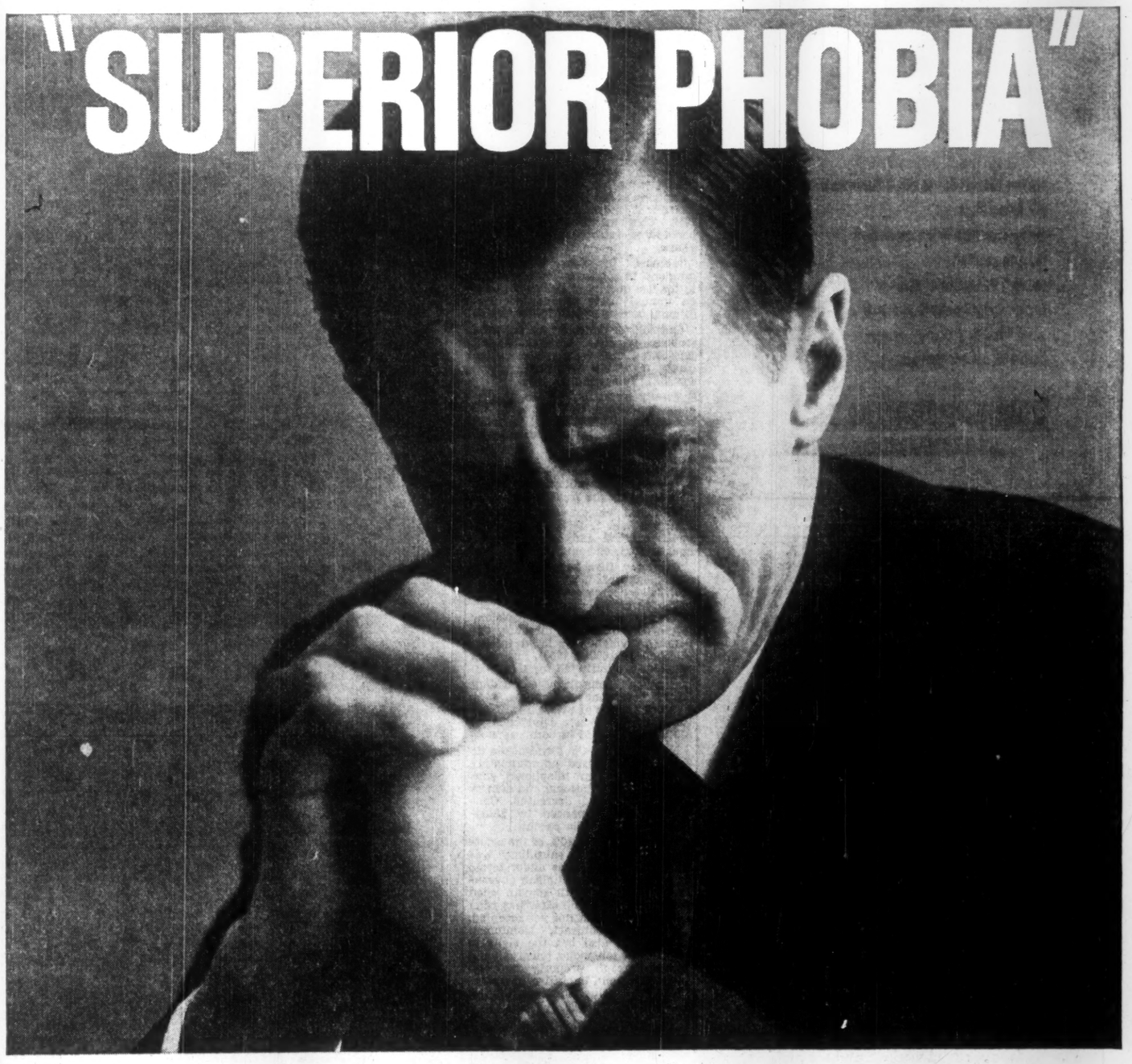

A recent experimental study, applying some techniques of motivation research to industrial purchasing, concluded that the personalities of the people involved is a major factor in the final industrial purchase decision.

The personality trait most frequently noted was "Superior Phobia," evidence of some fear of having superiors disagree with the individual's actions or opinions in the purchase decision.

It makes sense that selling is easier when everyone involved in purchasing decisions is inspired with *confidence* in your company and sure of their judgments in selecting your products.

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Company Reports

Paper

INTERNATIONAL PAPER CO., New York, consolidated net profit for 1959 of $83,610,673 (U.S.) was 16.1% higher than 1958's $72,000,906.

Sales of $1,030.2 million were a new high, up 13% over 1958. Earnings of $6.21 per share ($5.35 in 1958) include profit from sale of **Longview Fibre Co.** stock — 13c in 1959 and 17c in 1958, Chairman John H. Hinman and President R. C. Doane report.

Company's production of paperboard, paper and market pulp totaled 4.7 million tons, a 9% improvement over 1958, but still slightly below the 1956 peak. Production of converted products, lumber and plywood also showed substantial improvement.

In the current year, increased consumption of paperboard and paper is expected, but the immediate outlook for lumber and plywood is less encouraging.

Company's Canadian operations showed a marked growth in the shipping-container field. **Hygrade Containers Ltd.**, a subsidiary of **Canadian International Paper Co.**, opened a new plant in Newfoundland during 1959. Another subsidiary, **Continental Paper Products Ltd.**, opened a new plant near Montreal.

All eastern operations of the Continental Paper subsidiary were concentrated in a new plant at Pointe aux Trembles adjacent to the Hygrade plant. Production from the new plant includes multiwall sacks, grocery and specialty bags and a wide variety of converted paper products.

The Hygrade plant has been enlarged to include a packaging research and development laboratory which is being operated by **Industrial Cellulose Research Ltd.**, a subsidiary serving both Hygrade and Continental.

At La Tuque a new 35,000-ton paper machine, scheduled for completion late this year, will enable that mill to make a more diversified line of papers and boards.

During 1959, Canadian International acquired control of **Victoria Paper Co.** which has sales offices and warehouses from coast to coast in Canada and which, for many years, has been the principal outlet for many Continental Paper's products.

A shipper-container operation at Burlington, Ont., was added early this year when Canadian International Paper acquired more than 95% of **Hendershot Paper Products Ltd.** common stock.

At Hawkesbury, Ont., further diversification was provided by conversion of one of the two pulp-drying machines to the production of semi-chemical corrugating medium for shipping containers.

Economical use of wood supplies proved successful in a high-yield sulphite-pulping process for Canadian International's newsprint mills. The process has been applied on a small scale at the Gatineau, Que., mill and on a larger scale at the Dalhousie, N.B., plant.

Capital expenditures in 1959 were in excess of $70 million compared with $68 million in 1958.

CONS. INCOME ACCOUNT

Years Ended Dec. 31:	1959	1958
	$	$
Net sales	1,030,208,695	915,142,983
Net earnings‡	218,589,209	187,100,907
Less: Deprec. & depl.	57,433,693	47,395,218
Inc. tax res.	77,544,843	67,504,783
Net profit	83,610,673	72,000,906
Less: Pref. divds.	838,710	896,150
Com. divds.	39,340,713	38,316,620
Surplus for year	43,431,250	32,788,136
‡Incl. for exch. loss of	5,110,981	3,426,620
Earnings per Share and Dividend Record:		
4% Preferred	$418.56	$329.75
Paid	4.00	4.00
Common	6.21	5.46
Paid†	3.00	3.00
†Plus stock dividend of 2% in 1959 and 1958		
Shares o/s as at Dec. 31:		
4% Cum. pref., n.p.v.	199,760	218,350
Common $7.50 par	13,333,310	13,026,621

CONDENSED CONS. BALANCE SHEET

As at Dec. 31:	1959	1958
Cash & govt. secs.	$86,281,396	$74,152,374
Accts., rec., less res.	93,759,848	73,414,041
Inventories	157,644,050	141,335,935
Total curr. assets	317,685,294	288,902,350
Def. chgs & misc.	16,557,211	14,010,923
Investments	7,290,061	1,935,485
Cap. exp. fund	27,929,150	15,379,800
Plants & props.*	421,424,360	410,662,798
Woodlands	110,332,836	113,565,611
Total assets	901,218,912	$44,456,967
Accts. notes pay.	$1,897,638	41,371,704
Accr. tax, etc.†	34,897,254	33,501,360
Total curr. liab.	86,794,892	74,873,064
Reserves	7,765,814	7,306,864
Capital stock	119,975,825	119,534,657
Cap. re pf. conv.	40,430,070	40,430,070
Capital surplus	322,090,477	288,914,603
Surplus	324,161,834	313,397,709
*After depr. of	464,247,216	421,435,329
†After deduct. U. S. sav. notes of	47,575,465	46,992,554
‡U. S. funds		
Working capital	230,890,402	214,029,286

BATHURST POWER & PAPER CO., Bathurst, N.B., consolidated net profit of $1,813,414 for 1959 was 17.2% higher than 1958's net of $1,546,663.

Sales, a record, increased 9.4% over 1958. Record volume of production was established in corrugated products.

Increase sales of container boards was attributed both to increased consumption by the six container division plants and larger shipments to domestic and export customers.

Improved market for boxboard resulted in substantial sales increases.

Unbleached sulphite pulp, formerly produced for sale is being utilized by the second cylinder machine.

Container boards produced totaled 103,602 tons (93,483 tons in 1958); boxboards, 30,368 tons (25,484 tons); pulp for sale 1,142 tons (5,733 tons).

Container plants converted 97,570 tons of container board (89,158 tons in 1958).

Lumber and veneer used in production decreased 1.3 million fbm. to 14.4 million fbm.

Corrugated paperboard forms for use in pouring cement were introduced.

Chairman R. L. Weldon and President R. A. Irwin point out that while volume increases are encouraging, attainment of adequate profit margins has been hampered by increasing costs and the limited ability to raise selling prices. Cost of starting up the additional cylinder machine also affected 1959 results.

Net capital expenditure totaled $1,871,659 to improve manufacturing facilities. Major expenditure was for the second cylinder machine.

Inventory of pulpwood and other basic raw materials was carried at average cost in 1959 and was charged against operations on the same basis. Had the last-in, first-out method been used, as in previous years, net income would have been $138,379 higher.

Cutting and hauling operations for 1959-60 season, were completed shortly after the year end.

Aerial spraying in New Brunswick and Quebec was suspended in 1959. It will be resumed in south-central New Brunswick in 1960.

Company expects increased volume of business in 1960.

CONS. INCOME ACCOUNT

Years Ended Dec. 31:	1959	1958
	$	$
Net sales	37,808,561	34,370,540
Net earnings	6,233,327	5,248,462
Less: Deprec.	1,923,137	1,681,722
Depletion	91,852	84,019
Long-term debt int.	379,929	393,053
Amort. bd. disct. & exp.	17,995	17,995
Inc. tax res.	2,007,000	1,325,000
Net profit	1,813,414	1,546,663
Less: Cl. A divds.	800,000	800,000
Surplus for year	1,013,414	746,663

Note—For tax purposes the co. claimed additional depreciation in excess of amount shown in the accounts thereby reducing taxes.

Times Long Term Debt Interest Earned:		
Before deprec. & depl.	16.41	13.35
After deprec. & depl.	11.10	8.86
Earnings per Share and Dividend Record:		
Cl. A:		
Before part.	$4.53	$3.87
After part.	3.40	3.03
Pd. & payable	2.00	2.00
Cl. B:		
After part.	1.40	1.03
Pd. & payable	nil	nil
Shares o/s as at Dec. 31:		
Class A, n.p.v.	400,000	400,000
Class B, n.p.v.	325,000	325,000

CONDENSED CONS. BALANCE SHEET

As at Dec. 31:	1959	1958
Cash & dem. dep.	$2,446,009	$1,305,207
Accts., rec., less res.	3,984,401	3,770,714
S.f. investts.▲	4,958	294,087
Inventories	9,080,376	8,413,557
Expend. log oper.	2,554,474	2,950,070
Prepaid tax, etc.	179,352	8
Total curr. assets	17,949,570	16,733,635
Investments	495,200	600,200
Misc. assets	7,419,099	7,741,608
Fixed assets*	24,431,392	24,574,722
Total assets	43,295,261	42,651,245
Accts., etc., pay.	3,643,502	3,906,568
Income taxes	1,288,328	950,709
Debent. mat. 1 yr.	187,457	218,956
Total curr. liab.	5,119,287	5,076,228
Long-term debt	7,209,153	7,711,610
Capital stock	15,365,000	15,365,000
Surplus	15,511,821	14,498,407
▲Market value	unstated	257,890
*After depr. & depl.	22,323,205	20,483,515
‡Carried among miscellaneous assets in 1958 company report.		
Working capital	12,830,283	11,657,407

Pulp and Paper

PRICE BROS. & CO., Quebec, Que., consolidated net profit of $5,920,945 for 1959 was 3.3% higher than 1958's net of $5,731,376.

Conversion loss increased by $476,049 to $2,081,010.

Construction was started on the installation of a high-yield sulphite system at Kenogami mill. It is expected to be ready by mid-1960.

Newsprint mills operated at below capacity and at approximately the same rate as last year.

Newsprint shipped totaled 408,559 tons (406,390 tons in 1958); paperboard, 28,367 tons (30,342); lumber 43,631,000 bd. ft. (39,103,000).

In June, company offered to purchase all of the 165,750 outstanding shares of **J. C. Wilson Ltd.** at $16 per share. To March 1, 1960, all but 138 shares had been acquired. An advance of $650,000 was also made to J. C. Wilson Ltd.

CONS. INCOME ACCOUNT

Years Ended Dec. 31:	1959	1958
	$	$
Net earnings	14,492,853	13,973,091
Less: Deprec.	3,002,295	3,032,000
Depletion	226,000	208,000
All int.	177,971	241,714
Income tax	5,165,642	4,740,000
Net profit	5,920,945	5,731,376
Less: Pref. divds.	134,280	260,000
Com. divds.	4,382,836	4,930,713
Surplus for year	1,353,809	600,663
Times Interest Earned:		
Before depr., depl.	81.43	57.81
After depr., depl.	63.29	44.32
Earnings per Share and Dividend Record:		
Preferred	$143.33	$114.63
Paid	4.00	4.00
Com.	2.62	2.53
Paid & pay.	2.00	2.25
Shares o/s as at Dec. 31:		
4% Pref., $100 par	41,310	50,000
Common, n.p.v.	2,191,428	2,191,428

CONDENSED CONS. BALANCE SHEET

As at Dec. 31:	1959	1958
Cash	$1,990,641	$2,842,551
Accts. rec. less res.	7,051,866	5,196,688
Inventories	21,701,630	21,836,243
Tot. curr. assets	30,804,357	29,875,492
Secs., cost	18,359,100	17,824,356
Other invests.	1,377,946	1,388,647
Misc. assets	483,189	425,343
Fixed assets*	52,360,342	52,135,489
Total assets	103,581,934	101,649,527
Accts. & tax. p.	7,593,931	6,376,517
Other curr. liab.	1,209,062	1,209,617
Tot. curr. liab.	8,802,993	7,586,134
Subs. mortgages	350,917	
Funded debt	5,183,000	5,447,000
Capital stock	23,934,780	26,803,780
Capital surplus	17,552,247	17,405,425
Earned surplus	45,760,997	44,407,168
*After depres. & deplet. of	66,784,884	62,283,930
†Market value	20,383,000	20,068,824
Working capital	22,001,364	22,289,358

Ekco Products Sales Gain Here

Ekco Products Co. (Canada) Ltd., subsidiary of **Ekco Products Co.**, Chicago, Ill., showed continued improvement in sales and earnings in 1959, according to parent company's annual report. Ekco Canada's business is primarily the sale and distribution of products manufactured by Ekco and its British subsidiary, **Prestige Group Ltd.**

Manufacturing in Canada will be expanded this year through production of selected Ekco and Prestige items that cannot be successfully imported into Canada.

The U. S. firm had a net profit of $5.4 million in 1959 vs. $3.9 million the year before. Results of the subsidiaries are not published.

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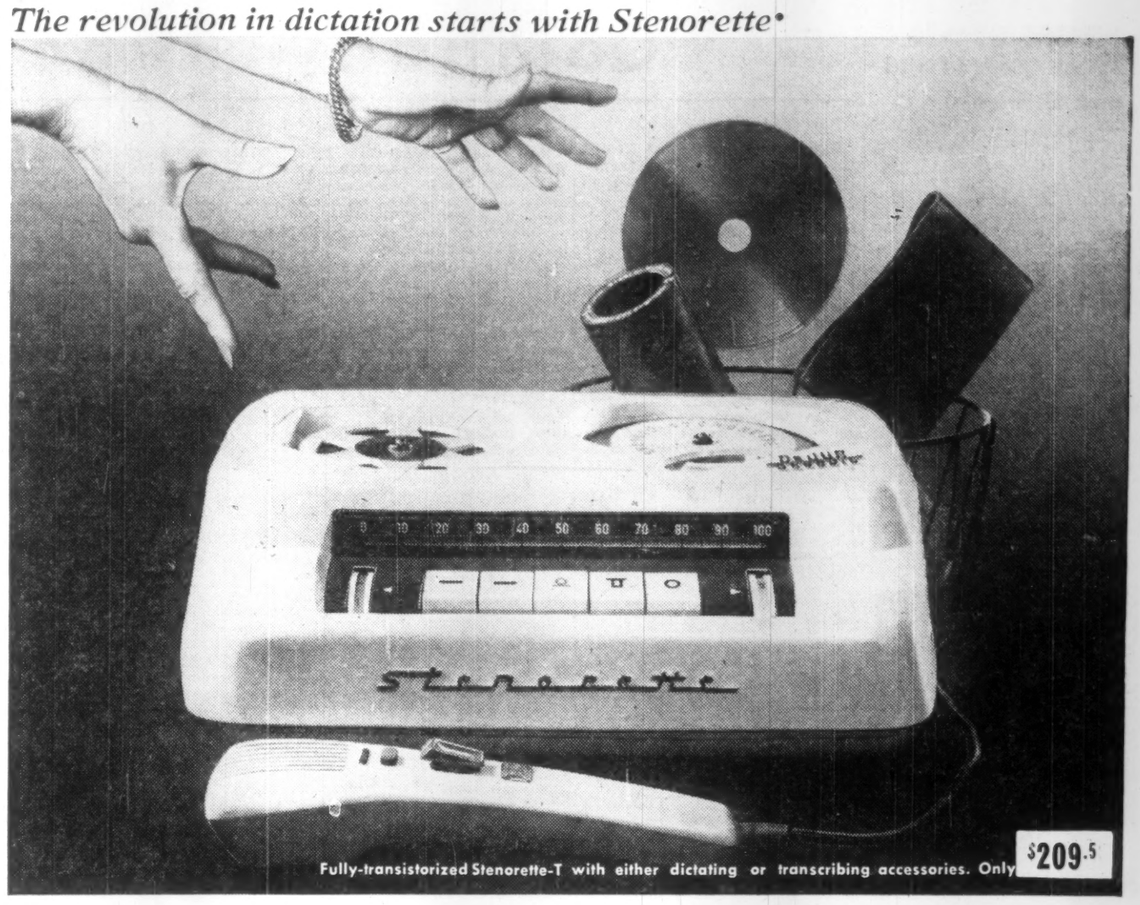

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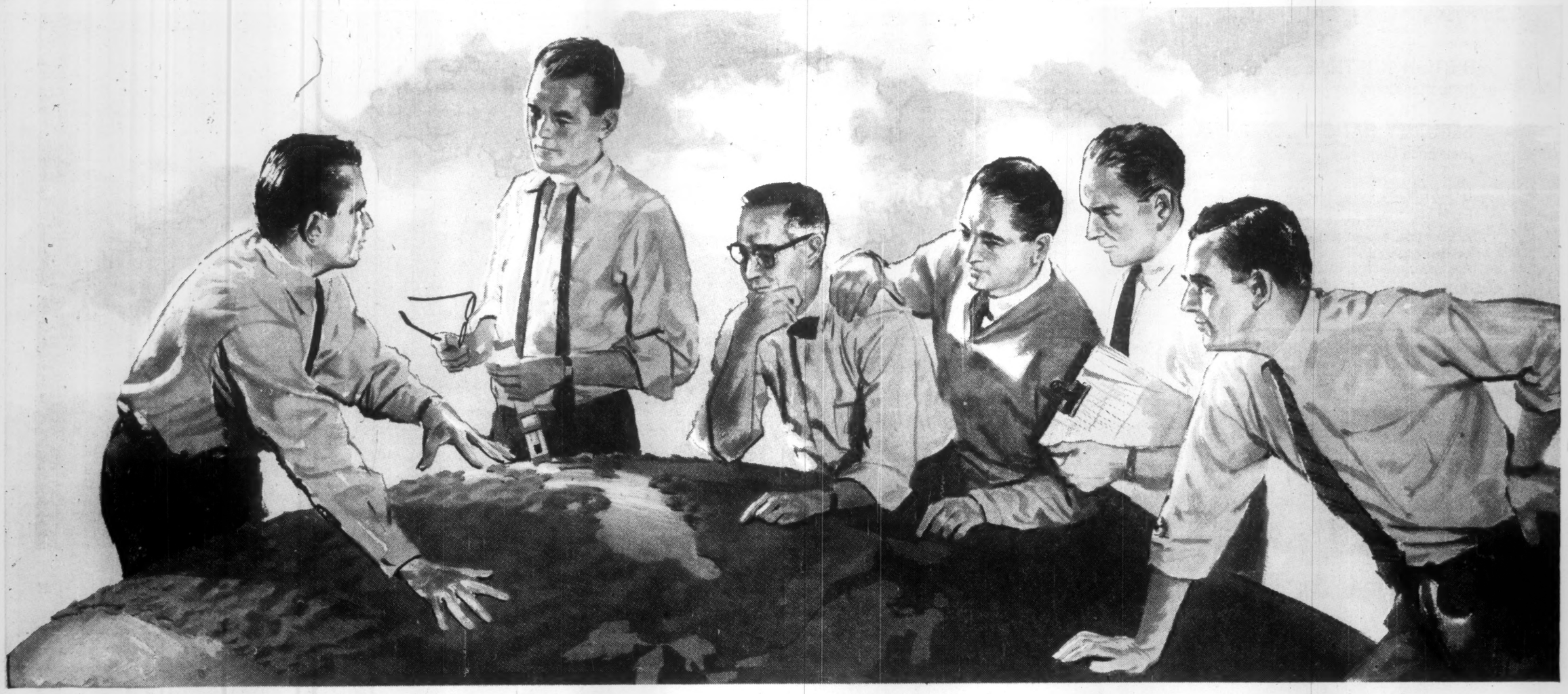

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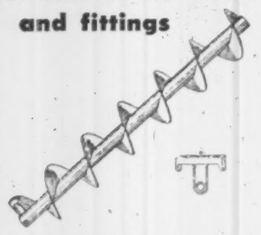

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ANNOUNCEMENT

THOMAS ADAMS DISTILLERS

C. D. WILSON

C. D. Wilson has been appointed vice-president and general sales manager of Thomas Adams Distillers Ltd. Mr. Wilson joined the sales division of the company in 1950, and was named Ontario Sales Manager for Thomas Adams Distillers Ltd. in 1957.

Company Reports

Textiles

BELDING CORTICELLI LTD., Montreal, net profit of $135,999 for 1959 was 2.8% lower than 1958's net of $139,982.

Sales volume increased 8.5%. Lower profit was due to lower prices in hosiery and knitwear and the price impact of foreign competition.

In agreement with **Chadbourn-Gotham Hosiery Co.,** company has taken over the manufacturing and marketing of Gotham Gold Stripe brand in Canada.

Company has transferred from inventory reserve $25,000 for extra depreciation in hosiery inventory due to substantial drop in hosiery yarn prices late in the season.

Capital expenditures amounted to $49,563.

President L. B. Ramsey reports that the company could expect to operate mills at higher capacity in 1960, if the federal government succeeds in negotiating a fair quota agreement with Japan. Imports of braided elastic in particular, are of serious concern. In seven years, Japanese imports in this line have increased from 3% to 60% of the Canadian market.

INCOME ACCOUNT

Years Ended Dec. 31:	1959	1958
Net oper. inc.	$295,541	$331,680
Add: Prof. sale inv., ..	.....	874
Prof. sale f.a.	1,155	▲525
Net earnings	296,696	332,029
Less: Depr.	119,397	134,138
Income tax res.* ...	41,300	57,909
Net profit	**135,999**	**139,982**
Less: Pref. divds	59,199	59,199
Surplus for year	**76,800**	**80,783**

▲Loss.
*Due to claiming excess depreciation for income tax purposes, provision for taxes is $20,000 in 1959 and $24,000 in 1958, less than it would have otherwise been.

Earnings per Share and Dividend Record:

Preferred	$1.61	$1.66
Paid	0.70	0.70
Common	0.91	1.05
Paid	Stk.	nil

†One common sh. for each 10 shs 0 held.

Shares o/s as at Dec. 31:

7% Pref., $10 par ..	84,570	84,570
Common, n.p.v. ...	84,601	76,910

CONDENSED BALANCE SHEET

As at Dec. 31:	1959	1958
Cash & govt. bds	$117,601	$202,701
Accts. rec. less res.	847,538	899,113
Inventories	2,049,802	1,451,512
Total curr. assets ...	**3,014,941**	**2,353,326**
Invest.	52,238	42,000
Misc. assets	71,979	61,047
Fixed assets†	1,221,615	1,296,573
Total assets	**4,360,773**	**3,752,946**
Bank loan	100,000	.....
Accts., etc., pay.	397,773	348,796
Total curr. liab.	**497,773**	**348,796**
Due pens. fund	.....	17,002
Reserves	903,263	521,212
Capital stock	1,622,491	1,614,800
Capital surplus	40,312	40,312
Surplus	1,296,934	1,210,824
†After depr. of	3,975,338	3,887,963
Working capital	**2,517,168**	**2,004,530**

Building Materials

NATIONAL SEWER PIPE LTD., Toronto, net profit of $191,805 for year ended Oct. 31, 1959 was 10.6% lower than the $214,565 earned in year ended Oct. 31, 1958 (as calculated from change in earned surplus in that period).

The latest financial statements cover 12 months ended Oct. 31, 1959. The previous statements covered 18 months ended April 30, 1959.

Added to capital surplus was $150, profit on sale of investments and $3,613 discount on bonds and debentures.

Company's share of net profit of subsidiaries for year ended Oct. 31, 1959 amounted to $27,312. Consolidated accounts are not presented.

INCOME ACCOUNT

	Year ended Oct. 31 1959	18 mos. ended Apr. 30 1959
Net oper. profit	**$604,022**	**$809,997**
Add: Sundry rev. ...	57,733	37,614
Net earnings	661,805	847,611
Less: Taxes	230,000	263,000
Depreciation	240,000	360,000
Net profit	**191,805**	**224,611**
Earnings per Share and Dividend Record:		
Preferred	$4.13	$4.84
None paid.		
Common	2.73	2.91
None paid.		
Shares o/s:		
Pref., $15 par	46,435	46,435
Common, n.p.v.	53,195	53,195

CONDENSED BALANCE SHEET

	Oct. 31 1959	Apr. 30 1959
Cash	$314,880	$269,145
Invest., cost†	862,058	688,861
Accts. rec. less res. ..	383,747	303,084
Inventories	413,554	501,483
Total curr. assets ..	**1,974,239**	**1,762,573**
Inv. & adv., subs ...	359,167	359,167
Funds held by trustee	376,666	376,666
Other invests.	200,000	200,000
Fixed assets‡	950,932	1,042,381
Total assets	**3,864,004**	**3,740,787**
Accts., taxes pay. ...	568,045	540,512
Bond, debent., int. ...	23,310	25,148
Total curr. liabs. ..	**591,355**	**565,660**
Funded debt	1,192,000	1,233,000
Capital stock	737,622	737,622
Capital surplus	▲432,122▲	428,359
Earned surplus	807,905	706,146
†Market value ...	837,848	unstated
▲After depr. & depl. of	3,126,377	3,006,377
Working capital	**1,382,884**	**1,196,913**

Electrical Equipment

CANADIAN MARCONI CO., Montreal, recorded a net profit of $323,686 for 1959. In 1958, a loss of $366,844 was sustained.

Despite a generally reduced market, sales volume exceeded that of 1958. Intense competition reduced profit margins below earlier expectations.

Most progress was made in the highly engineered products. It is trying to convert the electronic tube plant into a commercially sound enterprise.

Company has applied for a license for an English language television station in Montreal.

Sales of radio and television receivers remained at satisfactory levels, but profit margins were lower due to pressure from domestic manufacturers in a smaller total market and from Japanese and European manufacturers in the broadcast receiver field. Electronic tube and component sales held its share of a slightly lower total market.

CONS. INCOME ACCOUNT

Years Ended Dec. 31:	1959	1958
Net earnings	$1,461,102	$396,345
Less: Depr. & amort.	902,316	783,189
Que. inc tax†	35,100	.....
Net profit & surp. ...	**523,686**	**▲386,844**

▲Loss and deficit.
†No Federal and Ont. income taxes were payable in 1959 as a result of carrying forward losses of prior years.

Earnings per Share and Dividend Record:

Earned	$0.11	d$0.08
None paid.		
Shares o/s as at Dec. 31:		
Common, $1 par	4,554,682	4,554,682

CONDENSED CONS. BALANCE SHEET

As at Dec. 31:	1959	1958
Cash	$54,783	$52,102
Accts., etc., rec. less res.	6,773,276	6,343,240
Inventories	9,936,114	8,783,355
Prep. exp.	132,801	123,299
Total curr. assets ..	**16,896,974**	**15,303,996**
Misc. assets	107,212	273,427
Fixed assets†	3,755,370	3,728,435
Total assets	**20,759,556**	**19,307,858**
Due bank	7,878,416	7,711,003
Other curr. liab.	4,208,113	3,447,514
Total curr. liab.	**12,086,529**	**11,158,517**
Reserve	300,000	300,000
Capital stock	4,554,682	4,554,682
Earned surplus	3,818,345	3,294,659
†After depr. of	5,176,658	4,374,625
Working capital	**4,810,445**	**4,147,479**

Oil

COMMONWEALTH PETROLEUM SERVICES had a net income of $322,523 in the year ended Sept. 30, 1959 ($569,175 in previous fiscal year). Consolidated statements are not provided due to differences in year ends.

Company undertook a corporate re-organization to simplify the structure of the Commonwealth group of companies.

As result of purchases of shares in subsidiaries, Commonwealth incurred liabilities of $1.5 million to the subsidiaries and its parent **Southwest Petroleum Co.** The indebtedness to Southwest was repaid from the proceeds of a bank loan after the year end.

Purchase of controlling interest in **General Petroleums Drilling** was completed by the Commonwealth group in mid-1959.

INCOME ACCOUNT

Years Ended Sept. 30:	1959	1958
Net income	**$459,152**	**$588,324**
Less: Gen. exps	189,947	139,049
Int. & exch.	13,182	.....
Add: Chgd. to sub. ..	166,500	119,700
Net profit & surp. ...	**322,523**	**569,175**
Earned per Share	**$0.16**	**$0.28**
None paid.		
Shares o/s as at Sept. 30:		
Common, n.p.v.	1,999,309	1,999,309

CONDENSED BALANCE SHEET

As at Sept. 30:	1959	1958
Cash	$627	$113,352
Mkt. secs.†	.....	652,192
Accts. rec.	14,612	10,409
Total curr. assets ...	**15,239**	**877,167**
Dep. & adv.	.....	70
Short-term loan	.....	101,134
Agree. for sale	5,000	10,000
Inv. in subs., etc.	8,826,710	6,301,080
Sundry shs. & roy. ...	15,537	79
Leases & dev.	57,573	105,332
Fixed assets*	21,351	23,321
Total assets	**8,941,312**	**7,517,069**
Bank overdraft	29,730	.....
Accts. pay.	1,530,935	659,550
Total curr. liab.	**1,560,665**	**659,550**
Due on purchase shs. ..	.....	240,000
Capital stock	667,629	667,629
Earned surplus	6,713,018	5,949,890
*After depr. of	30,874	28,285
†Market value	.....	962,166
Working capital	**▲1,545,126**	**217,617**
▲Excess of curr. liabs. over curr. assets.		

Textiles

CANADIAN CELANESE LTD., Montreal, net profit of $2,799,955 for 1959 was 23.7% higher than 1958's net of $2,263,353.

Increase was due mainly to greater sales of carpeting and upholstery and specialty yarns.

Additions to fixed assets totaled $3,414,860.

Early in 1959, the buildings and equipment of **Slingsby Manufacturing Co.,** Brantford, Ont., were purchased. Company manufactured blankets, woolen type fabrics and hair cloth.

All outstanding stock of **Lucien Forestier Ltd.,** Plessisville, Que., was acquired in October, 1959. Total of $377,981 was advanced to this subsidiary.

Carpet operations have been transferred to Sorel from Drummondville.

Research is being directed toward development of synthetic fibres, for uses where cellulose acetate based fibres are not suitable.

INCOME ACCOUNT

Years Ended Dec. 31:	1959	1958
Net earnings	$7,865,439	$6,820,412
Less: Deprec.	2,042,560	1,996,510
Deb. int.	130,474	343,424
Inc. tax	2,890,000	2,015,000
Amort., pat., etc. ...	2,450	2,116
Net profit	**2,799,955**	**2,263,353**
Less: $1.75 Pref. div.	695,625	700,000
$1 Pref. div.	100,000	100,000
Com. divds.	1,241,636	1,117,472
Surplus for year	**762,694**	**345,881**
Times Debent. Int. Earned:		
Before depr.	60.28	44.77
After depr.	44.63	30.84
Earnings per Share and Dividend Record:		
Pref. ($1.75 & $1 Series):		
Earned	$ .66	$4.53
Paid ($1.75 Pref.	1.75	1.75
$1 Pref.	1.00	1.00
Common	1.61	1.18
Paid	1.00	0.90
Shares o/s as at Dec. 31:		
$1.75 Pf., par $25	395,000	400,000
$1 Pf., par $25	100,000	100,000
Common, n.p.v.	1,241,636	1,241,636

CONDENSED BALANCE SHEET

As at Dec. 31:	1959	1958
Cash	$363,107	$700,425
Investments†	6,103,138	6,845,620
Accts. rec.	3,072,908	3,241,465
Inventories	8,991,223	8,309,174
Total curr. assets ..	**18,734,374**	**19,096,684**
Deferred chgs.	127,384	111,955
Inv. adv., sub.	381,981	.....
Sec. held for inv.	33,140	33,140
Fixed assets	45,939,787	44,136,045
Patents, etc.	2,095,951	1,090,276
Total assets	**66,312,617**	**64,468,100**
Accts., etc., pay.	919,565	917,037
Taxes pay.	1,316,985	887,249
Total curr. liab.	**2,236,550**	**1,804,286**
Depr. & amort. res. ..	26,776,886	26,333,609
Special res.	.....	123,505
Deferred inc. tax	1,448,000	1,138,000
Debentures	4,138,000	4,378,000
Capital stock	13,594,045	13,719,045
Distrib. surplus	62,500	62,500
Surplus	18,056,636	16,909,155
†Mkt. val., approx. ..	6,145,992	7,003,220
Working capital	**16,497,824**	**17,292,398**

STUDY IN INDUSTRY

About 25 vocational teachers in electrical trades, from all provinces, will take a four-week summer course with "in industry" training at selected Toronto-Hamilton area plants this summer, followed by lectures at Toronto's Ryerson Institute of Technology.

Graphic Arts

BRITISH AMERICAN BANK NOTE CO., Ottawa, net profit of $456,606 for 1959 was 2.4% lower than 1958's net of $467,599.

Sales reached a record high. While earnings before taxes also created a new record, higher taxes reduced net profit.

President A. Murray Vaughan reports that a substantial amount of money was spent installing modern equipment and better machines.

INCOME ACCOUNT

Years Ended Dec. 31:	1959	1958
Net earnings	$1,097,382	$1,065,408
Less: Deprec.	167,776	173,609
Income tax	473,200	424,200
Net profit	**456,606**	**467,599**
Less: Divds.	375,000	322,500
Surplus for year	**81,606**	**145,099**
Earnings per Share and Dividend Record:		
Common	$2.04	$3.12
Paid	1.70 + 0.80	1.45 + 0.70
Shares o/s as at Dec. 31:		
Common, n.p.v.	150,000	150,000

CONDENSED BALANCE SHEET

As at Dec. 31:	1959	1958
Cash	$96,134	$140,868
Accts. rec.	160,298	145,382
Due fr. empl.	36,418	40,068
Investments*	1,505,646	1,384,001
Inventories	430,449	380,650
Total curr. assets ..	**2,228,945**	**2,090,969**
Prep. exps.	26,341	24,251
Fixed assets†	944,554	921,246
Total assets	**3,201,840**	**3,016,466**
Total curr. liab.	**341,303**	**276,585**
Capital stock	300,000	300,000
Surplus	2,557,537	2,475,931
†After depr. of	2,580,631	2,463,673
*Market value	1,470,588	1,373,105
Working capital	**1,881,642**	**1,820,434**

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May Alter Alberta Farm Machine Act

Special Correspondence

CALGARY — Should Alberta's Farm Machinery Act be correlated with Saskatchewan's?

A sub-committee of Calgary Chamber of Commerce is urging the government to investigate such a change.

The Saskatchewan act, enforced by an independent Agricultural Machinery Administration, provides for licensing of dealers, requires them to show financial responsibility and controls the sale and servicing of machinery parts in various other ways.

The Calgary recommendation grew out of complaints by Alberta farmers last season that they had trouble obtaining repair parts they needed.

Extra demand for repair parts apparently grew out of above normal wear and tear on machines during bad harvesting conditions. The same conditions also tended to cut demand for new machines in favor of repair of existing equipment.

ANNOUNCEMENT

ROLPH-CLARK-STONE APPOINTMENTS

F. M. ROLPH — R. H. GRANT — B. J. BRADY — H. K. HAMILTON

Four new appointments have been announced by F. G. Rolph, President of the Rolph-Clark-Stone group of Companies. Frank M. Rolph moves to Montreal to become Assistant General Manager of Rolph-Clark-Stone-Benallack Limited. Ralph H. Grant becomes Sales Manager and Brian J. Brady, Assistant Sales Manager of the Lithographing Division of Rolph-Clark-Stone Limited, Toronto, and H. K. (Bob) Hamilton, Sales Manager of the Calendar and Specialty Division of the firm.

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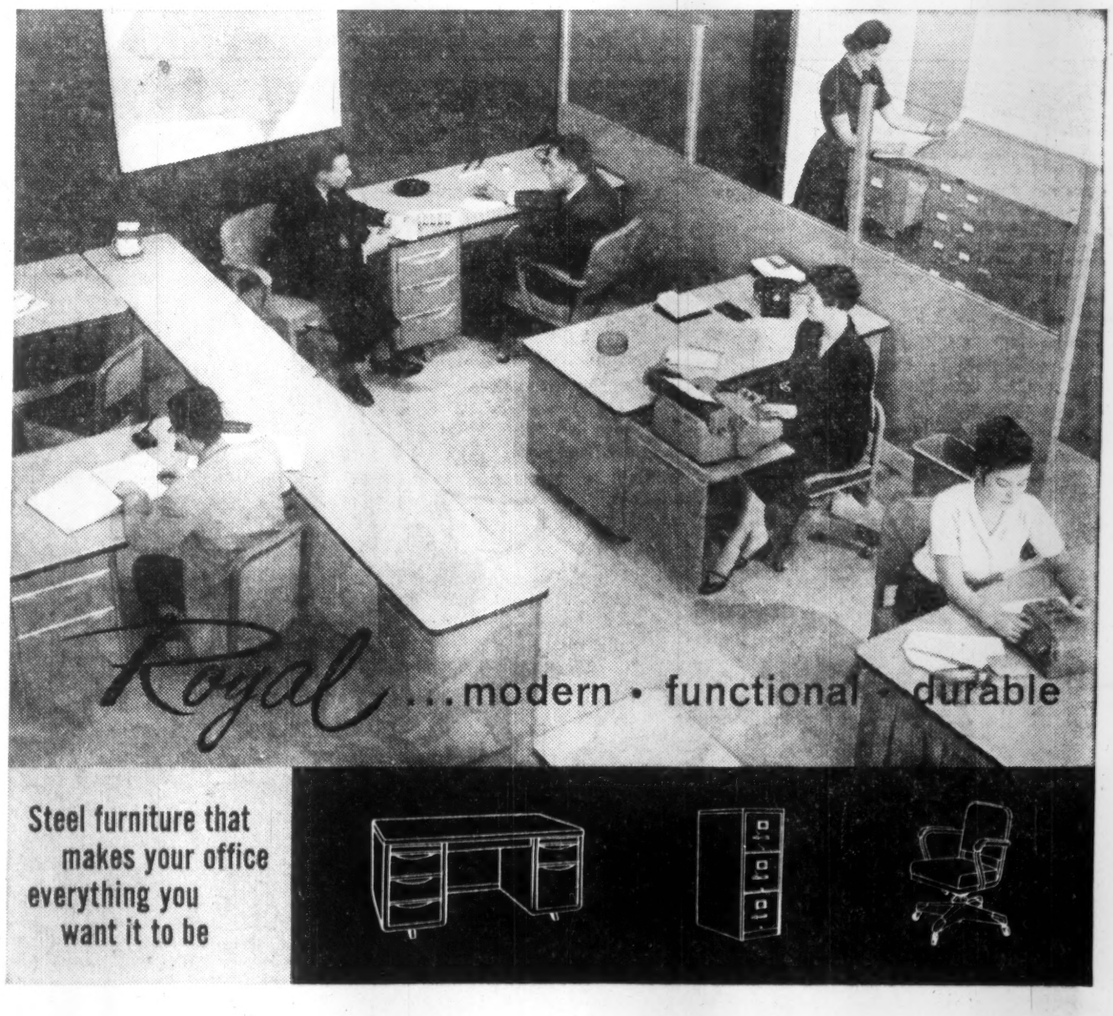
ANNOUNCEMENT

NATIONAL HOUSE COFFEE APPOINTMENT

DOUGLAS WILLIAMS

Thomas Dell'Elce, President of National House Coffee Ltd., announces the appointment of Douglas Williams as general manager. This is further to Mr. Williams' responsibilities as sales manager of the Company. Mr. Williams has had extensive experience in the tea and coffee business.



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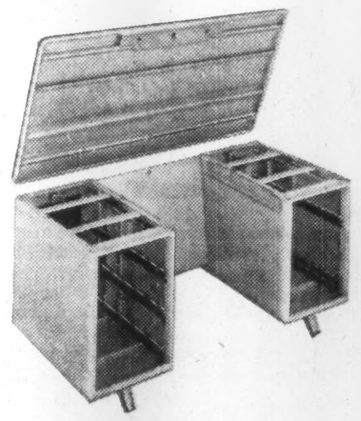
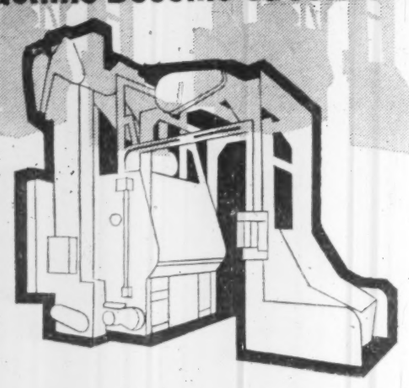


Steel frame inner construction allows exceptional strength and rigidity without adding excessive weight, yet exteriors retain the warmth and richness of beautiful Plastelle enamel.

Telescopic arm suspension for drawers assures maximum strength which, with nylon gliders make drawers run smoothly, effortlessly. Many other features combine to make this a desk of exceptional ruggedness.

60-6

When Does a Blast Cleaning Machine Become Obsolete?



Scores of Canadian firms have taken the progressive viewpoint that any production tool, including a blast cleaning machine, becomes obsolete whenever a better tool becomes available to do its job at lower cost.

Such a tool is the Wheelabrator Super Tumblast. Management of a prominent Ontario malleable foundry analyzed its blast cleaning barrel, two tumbling barrels, and one rumbling barrel — all working well, but unable to deliver sufficient production. They replaced this battery of cleaning equipment with one 7-cu. ft. Super Tumblast, and thereby increased cleaning capacity, improved cleaning quality, and reduced actual cleaning costs substantially.

Wheelabrator Takes the Guess-Work Out of Heavy-Duty Blast Cleaning

With more than 200 Super Tumblasts in service, Wheelabrator has more heavy duty blast experience than is available anywhere else. Complete engineering, installation, maintenance and parts services are available from Wheelabrator Corp., Canadian Div., P.O. Box 490, Scarborough, Ontario.

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AIRLESS BLAST EQUIPMENT

Company Reports

Financial

SOCIETE NATIONALE DE FIDUCIE, Montreal, net profit of $94,317 for 1959 was 2.6% higher than 1958's $91,962.

Estates, trust and agencies under administration at Dec. 31, 1959, totaled $51,511,883, compared with $50,651,444 a year earlier.

	1959	1958
Liabs. to public, etc.*	$3,254,614	$3,169,746
Shareholders' equity	1,179,067	1,159,750
*Secured by:		
Mortgages	703,317	700,760
Liquid assets▲	3,730,364	3,628,736
Total	4,433,681	4,329,496
▲Includes bonds and stocks		
Estates account	51,511,883	50,651,444
Net profit	94,317	91,962
Earned per Share	$3.77	$3.68
Paid	2.90	1.70 + 0.20

Public Utilities

SHAWINIGAN WATER & POWER CO., Montreal, consolidated net profit of $13,175,472 for 1959 was 4.6% below 1958's net of $13,812,825.

Decreased earnings were attributable mainly to excess generating capacity over firm power requirements resulting from the new Beaumont generating station.

Revenue from electricity sales reached a record $75,897,901, an increase of 8.6% over 1958. This was not, however, sufficient to compensate for carrying charges of the Beaumont plant and loss of income credit from interest charged to construction.

Total operating expenses increased 9.9% to $59,084,434.

Company issued 118,909 common shares to **Union Carbide Canada Ltd.** to purchase its 51% interest in **Canadian Resins and Chemicals Ltd.**; 63,120 shares under the employees stock purchase plan, and 223,961 shares on conversion of 5½% debentures. This increased the outstanding common to 7,825,763 shares.

This interest in Canadian Resins was subsequently sold to **Shawinigan Chemicals Ltd.** for 145,069 shares of its common stock. This increased company's investment in Shawinigan Chemicals by $3,626,725.

Dividends received from subsidiaries and other companies were 35.5% higher. Dividend payments from Shawinigan Chemicals increased to $1 million from $229,331, reflecting higher earnings. **Quebec Power Co.** dividends increased 10.3% to $620,110. No dividends were paid by **Shawinigan Engineering Co.,** compared with $300,000 in 1958.

Total kwh of electricity sold increased 9.6% to 12,028,421,800 from 10,973,479,600.

Sales of primary power to major industries increased 6.7%; sales to small industrial and commercial customers and municipal services increased 13.7%; urban residential customer sales' increased 15.6%, and rural customers, 16.6%. Number of customers served increased to 350,949 from 337,747.

Water in storage reached a new high level which was 50.5% higher than the long term average.

Capital expenditures totaled $17,451,643. The bed of the St. Maurice River was deepened for two miles below the Beaumont power development to bring the plant to rated capacity of 246,200 kwh.

Maintenance expenditures totaled $6,859,446. These amounts are now being capitalized. Formerly, they were written off as an expense.

Shawinigan Engineering Co. started construction on a new sodium cyanide plant for Shawinigan Chemicals. Design and supervision of construction of the Dufferin Falls power development for **James Maclaren Co.** was completed.

It is expected that construction of the atomic reactor, near Bombay, India, will be completed in 1960.

Net profit of Shawinigan Chemicals increased to $1,938,122 from $865,205 in 1958.

Sales volume of **Shawinigan Products Corp.,** New York, increased and dividends to Shawinigan Chemicals amounted to $179,000 U.S., the same as in 1958.

Shawinigan Ltd., London, England, had higher earnings and paid $59,993 in dividends compared with $60,954 in 1958.

Initial dividend of $50,000 was paid by **McArthur Chemical Co. (1958) Ltd.,** Montreal.

Increases resulted in dividends of $235,006 ($58,752) from **B. A.-Shawinigan Ltd.,** Montreal, $312,600 U.S. ($78,150 U.S.) from **Shawinigan Resins Corp.,** Springfield, Mass. and an initial dividend of $16,315 from **Hedon Chemicals Ltd.**

Company anticipates power requirements to increase at average rate of 6% each year, equivalent to a doubling about every 10 years. Large capital expenditures will be required to meet these needs.

CONSOL. INCOME ACCOUNT

Years Ended Dec. 31:	1959	1958
	$	$
Gross revenue	78,851,551	72,394,896
Net earnings	41,391,217	36,740,821
Add:		
Int. chgd. to const.	80,919	1,971,612
Less: Deprec.	10,463,300	8,818,800
Int. chgs.	6,136,753	6,301,727
Inc. taxes*	11,160,800	9,244,717
Pfd. sup. div.	496,223	496,223
Min. int.	39,588	38,141
Net profit	13,175,472	13,812,825
Less: Pfd. divds.	1,025,000	1,025,000
Class A divds.	758,156	758,156
Com. divds.	6,153,287	5,028,721
Surplus for year	5,239,029	7,000,948

*Taxes payable for the year were $9,513,500 in 1959 and $7,207,717 in 1958; the excess charged to accts. results from claiming additional depreication for tax purposes not included in the accounts.

Times All Interest Earned:		
Before deprec.	6.76	6.14
After deprec.	5.05	4.74
Earnings per Share and Dividend Record:		
Preferred	$26.35	$27.63
A pref., paid	2.00	2.00
B pref., paid	2.25	2.25
A com. (new): Earn.	21.37	22.49
Paid	1.33⅓	1.33⅓
Com. (new): Earn.	1.46	1.62
Paid	0.80	0.68
Shares o/s as at Dec. 31:		
Ser. A., pref., $50 par	400,000	400,000
Ser. B, pref., $50 par	100,000	100,000
Cl. A com., n.p.v.	368,617	368,617
Common, n.p.v.	7,825,763	7,419,773

CONDENSED CONS. BALANCE SHEET

As at Dec. 31:	1959	1958
Cash	$898,177	$1,785,323
Investments	1,009,233	3,716,053
Accts. rec.	9,120,445	8,226,167
Mat. & supplies	3,576,120	3,318,408
Prep. chgs.	1,550,399	1,464,899
Total curr. assets	16,154,374	18,512,850
Unamort. disc., etc.	2,853,921	3,281,831
Fixed assets▲	339,756,536	333,276,110
Sub. sec., etc.	21,314,926	18,618,201
Total assets	380,079,757	373,690,992
Acc. & tax. pay.	11,842,765	15,630,991
Bd. int. & div.	3,200,662	2,983,323
Total curr. liab.	15,043,467	18,614,314
Adv. re constr.	2,519,982	2,470,848
Def. inc. tax	12,020,500	10,373,200
Funded debt	161,711,000	169,422,500
Water stor. equal. res	1,492,000	1,492,000
Conting. res.	677,586	671,586
Pref. stk. of subsid.	7,088,900	7,088,900
Min. interest	327,614	349,495
Capital stock	133,005,307	122,000,025
Surplus	46,193,401	41,208,124
†Mkt. value	1,211,071	4,009,537
▲After depr. & amort.	118,236,580	107,810,211

‡After prov. for doubtful accts.

Working capital	1,110,907	▲101,464

▲Excess of curr. liabs. over curr. assets.

Chemicals

CANADIAN CHEMICAL CO., Montreal, consolidated net profit amounted to $3,319,005 for 1959. In 1958, consolidated net profit totaled $770,730.

This is the first report to shareholders since becoming a public company. Previously, company was an operating subsidiary of **Canadian Chemical & Cellulose Co.** Shares were distributed to holders of the parent company on a share-for-share basis.

Late in 1958, advances from the parent amounting to $2,180,796 were cancelled, eliminating company's accumulated deficit. In 1959, company borrowed $10 million from Canadian banks on notes due June 30, 1961, to discharge remaining indebtedness to parent.

On Sept. 30, company reacquired as a wholly owned subsidiary, **Chemcell Fibres Ltd.** This subsidiary merchandises company's yarns and fibres as well as the Canadian fibre sales of **Celanese Corp. of America.** A new-interest bearing note of Chemcell Fibres for $3.6 million U.S. was converted into a note bearing 6% interest from Jan. 1, 1961. It must be repaid from proceeds of any new financing by Canadian Chemical, after retirement of the $10 million notes due to the banks June 30, 1961.

Sales increased 20%. Major increase in chemicals and plastics was in the export market, including pentaerythritol, up 50%; cellulose acetate, 23%; formalin, 18%, plastics (imported), 35%. Main sales gains in yarns and fibres were in "Arnel", (company's tricacetate fibre) and cigarette tow for filters.

A capital expansion program involving $4 million is underway to increase by 40% petrochemical facilities at Clover Bar, Alta. Full expansion will be realized early in 1961. At Dec. 31, 1959 commitments on this program and other capital construction totaled $1,850,000.

Early in 1960, the company became affiliated with **Pollybottle Ltd.,** Toronto, manufacturers of blow moulded plastics.

Principal fibre sales increases in 1960 are expected to be in "Arnel" and cigarette tow. Strong demand for chemicals and plastics is expected to continue.

CONSOL. INCOME ACCOUNT

Years Ended Dec. 31:	1959	1958
	$	$
Net sales	26,272,766	21,882,177
Net earnings	8,652,665	6,649,513
Less: Deprec.	3,186,793	3,446,420
Interest (net)†	1,981,002	2,270,779
Amort. bd. disc., exps.	134,353	143,084
Income tax	31,512	13,500
Net profit & surp.	3,319,005	776,730

†After deducting $120,635 in 1959 and $154,931 in 1958, profit on sinking fund operations.

Earnings per Share and Dividend Record:		
Common	$0.66	$0.15
None paid.		
Shares o/s as at Dec. 31:		
Common, n.p.v.	5,040,400	5,040,400

COND. CONSOL. BALANCE SHEET

As at Dec. 31:	1959	1958
Cash	$1,835,215	$878,654
Co. bonds	954,981	16,224
Accts. rec.	4,299,958	3,107,969
Inventories	5,497,900	4,012,194
Prepaid exps.	236,800	243,674
Total curr. assets	13,423,954	8,260,915
Fixed assets*	65,434,017	65,508,205
Bd. disc., exps. less w.o.	706,702	841,055
Total assets	79,564,673	74,710,175
Accts., etc. pay.	2,395,371	1,600,022
Income tax	32,300	13,500
Mtge. bd. pay.	2,700,000	2,700,000
Total curr. liabs.	5,127,671	4,313,522
Mtge. bonds	25,800,000	28,500,000
Notes pay.	13,464,266	
Other liabs.		11,325,304
Capital stock	30,000,000	30,000,000
Earned surplus	5,172,734	571,349
*After depr. of	19,752,660	19,914,577
†less allowance for doubtful accounts.		
Working capital	8,296,283	3,947,393

Commitments re construction were approx. $1,850,000 at Dec. 31, 1959.

Note—Pro Forma balance sheet, as at Dec. 31, 1959, after giving effect to issuance of sinking fund debentures, 7% series A, in Feb. 1960, showed total assets of $81,135,673.

Life Insurance

EMPIRE LIFE INSURANCE CO., Kingston, Ont., new business written in 1959 came to $45 million, 25% more than the $36 million put into effect a year earlier and the largest gain in company's history.

Total insurance in force at year end was $261.3 million, up nearly 13% in a year. Of this amount, $236 million is on individual lives; $23 million group insurance; remainder in annuities.

Company's assets totaled $37.3 million, up $2.6 million. Net rate of interest earned on invested assets in 1959 was 5.04% (4.18% a year earlier).

Company investment policy has put major emphasis on mortgage loans and bonds, President Charles P. Fell said.

Mortgage loans rose to 39.9% (37.6%) of the portfolio. Bond and debenture holdings were 47.4% (49.2%), with other investment categories showing little change.

Payments to policyholders and beneficiaries exceeded $2.2 million, including death benefits of $870,811 and dividends totaling $224,652.

	1959	1958
	$	$
Business in force	261,364,000	231,456,000
New business	45,000,000	36,000,000
INCOME AND EXPENSE ITEMS		
Total receipts	7,775,345	6,994,883
Premiums	5,811,649	5,283,526
Inv. income	1,752,570	1,543,404
Other income	211,126	167,953
Pols.' payments	2,250,878	2,332,102
Incr. in res.	2,622,505	2,314,821
Exps., taxes, etc.	2,393,781	2,089,486
Other payments	135,377	115,003
Operating surplus	372,804	143,471
BALANCE SHEET ITEMS		
Liabs. to pol'holders		
incl. actuarial res.	32,686,273	30,241,046
Liabs. to sh'holders	687,187	683,375
Special reserves	1,461,760	1,226,760
Other liabs.	963,860	1,202,844
Free surplus	1,540,139	1,417,335
Total assets	37,364,219	34,771,360
Net interest earned	5.04%	4.81%

1959 — ANOTHER YEAR OF PROGRESS

	Total Income	Insurance in Force	Total Assets
1919	$ 302,074	$ 8,805,175	$ 729,670
1929	1,345,822	40,196,496	5,170,978
1939	1,619,052	51,511,803	7,895,923
1949	3,475,218	111,779,222	20,082,425
1959	6,745,239	230,508,442	39,995,899

HIGHLIGHTS OF 1959 REPORT

Exceptional Interest Earnings

Low Mortality Experience

Total Assets at New Peak

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How U.S. Plans Big Trade Drive, Export Financing

From Our Own Correspondent

WASHINGTON — Canadian exporters beware:

The U. S. has formally launched its biggest export sales drive in recent history.

The "hard sell" is on for the Yankee traders who want to sell more to Canada and more to other parts of the world where Canadian and U. S. exports compete.

Europe is target area number one for this new U. S. drive.

The U. S. government is throwing up to $12 million a year into the campaign to boost exports:

- **About 150 new** commercial attachés will be named to U. S. embassies around the world, and some of them will set up shop outside the capital cities to help drum up more business for U. S. firms.
- **In the Bureau of Foreign Commerce,** the staff promoting exports will be more than doubled.
- **Two permanent** U. S. trade centres will be established — one in an industrially advanced nation, probably in Europe, and the other in a less-developed country.
- **There will be more participation in trade fairs** in various parts of the world.
- **U. S. commercial libraries** will be set up and improved around the globe.
- **The Department of Agriculture** will expand its farm trade promotion, presumably by more emphasis on the current heavily subsidized export programs.
- **Perhaps of primary importance** is the entrance of the Export-Import Bank into the business of providing export guarantees covering political risks in short term transactions and in expanding its present medium term loans.

The objective:

To increase U. S. exports by 10%-20%.

In dollars and cents at the current rate this would mean an increase of $2,000 million to $4,000 million a year.

The U. S. has been planning this campaign for some months (FP, Aug. 29, 1959).

In formally launching the program, President Eisenhower said U. S. exporters have had things all their own way until the last year or so.

A sellers' market existed until this past year, he said, but now it is a buyers' market and U. S. business, with government help, must sell harder.

More exports are vital to U. S. foreign policy in the cold war, according to Undersecretary of State C. Douglas Dillon.

"Unless we as a nation re-establish and maintain a substantial export surplus," Dillon said, "we will find it extremely difficult to continue the efforts we must make to keep the free world free. . .

"Our goods sold abroad not only act as ambassadors of the American way of life, but will do yeoman service in helping us to meet the political, military and economic challenges that lie ahead."

In addition to getting exporters to expand their sales, the government wants to get more U. S. companies into the business of selling overseas.

The new Export-Import Bank loans will help in this regard by providing guarantees for many consumer goods.

Hitherto, most of the Export-Import guarantees have covered capital goods.

But with the short-term guarantees now available, far more consumer goods will be eligible for Export-Import Bank help.

Dillon thinks one major result of this will be a substantial increase in U. S. exports of pharmaceutical goods.

Under the new short term guarantees, the Export-Import Bank would cover 90% of the risk of:

Non-transferability or non-convertibility of foreign currencies.

Losses directly resulting from war, civil commotion and expropriation.

Those resulting from the imposition of import restrictions or the cancellation of import permits.

This short-term guarantee program goes into effect within two months.

Under the expansion of the medium-term guarantees, the Export-Import Bank would participate in financing such transactions in sole reliance upon the credit judgment of a U. S. commercial bank in the following circumstances:

- **Whenevar a commercial bank** is prepared to finance the first three or four semi-annual installments of a three to five year credit, the "Ex-Im" would finance the remaining installments.
- **If the exporter** and a commercial bank would participate in each of the installments, the exporter up to 15% of the invoice value and the commercial bank up to 10%, the "Ex-Im" would finance 55%.

In each of these two instances, however, the foreign buyer must have paid at least 20% of the invoice value by the time of delivery.

These include:

Export credit.

Where direct financing by "Ex-Im" is required, the Bank participates with the exporter on a case-by-case basis by buying from him for cash obligations of the buyer representing up to 85% of the financed portion of the transaction.

In each such case, the buyer must have paid at least 20% by delivery time.

Comprehensive guaranty.

In cases in which the exporter or his commercial bank is prepared to provide the financing, the "Ex-Im" issues a guaranty covering both credit and political risks of the exporter or his bank to the extent of 85% of the financed portion of the deal.

Political risk guaranty.

In cases in which the exporter or a commercial bank is prepared to provide the financing and assume the commercial credit risks, "Ex-Im" guarantees the political risks involved to the extent of 90% of the financed part of the transaction.

Repetitive sales.

Once an exporter has established the credit standing of a foreign dealer or other customer to whom a number of sales are anticipated, the "Ex-Im" agrees upon a credit ceiling against which the exporter may carry out a series of transactions without reference to "Ex-Im" in each case.

AM to Build New Plant At Brampton

Construction of a new plant for **American Motors (Canada) Ltd.** at Brampton, Ont., will commence in about a month.

The first Canadian-produced 1961 model Rambler is expected to roll from the assembly line before Jan. 1, 1961.

SHOTTON

The one-story plant, covering 250,000 sq. ft., will be located on a 40-acre site in Peel Village, a planned industrial, commercial and residential development by a subsidiary of **Elder Mines & Developments Ltd.**

Elder will be general contractor. Site is close to both No. 7 and No. 10 highways.

Provision has been made for doubling factory size. Initially only Rambler Six models will be produced with a target of 10,000 automobiles next year on a one-shift basis.

Employment will increase from present 106 to more than 700.

Later, Rambler Americans and Ambassadors will be produced in Canada.

Co-incident with this announcement, Earl K. Brownridge, executive vice-president, announced appointment of W. Harry Shotton as works manager.

Shotton has had 12 years' engineering and manufacturing experience with **Ford Motor Co. of Canada** and **Chrysler Corp. of Canada.**

Most recently, he was plant manager of the Chrysler passenger car plant in Windsor.

Canadian content of the Ramblers will be increased beyond the 40% government-enforced minimum as quickly as possible "and will go as high as we can make it," Brownridge said.

American Motors' sales in Canada last year, all models, totaled 10,030, up 65% from 6,154 in 1958. Sales this year are projected at 14,000.

The new plant will manufacture Rambler's unitized body and will assemble to it the engine and other components. It will be the first plant in Canada to dip the entire body in a corrosion-resistant primer.

Elder has taken over the present AM building on Danforth Ave., Toronto.

a 2 million dollar smile!...

At first glance you'd believe that this man and the members of his committee had just made that much money. But no . . . they've just *spent* 2 million! Why the smile? Because, in letting the contract they know they have put themselves in the hands of a company they can trust.

The company was one of the Canada Iron Group. Could have been Dominion Structural Steel, Pressure Pipe or one of nine others. But whichever it was, these men *know* there is a record of reliability behind it. They know they'll get *full value* for every dollar spent with the Canada Iron Group.

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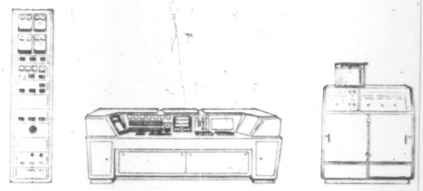

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MUTUAL LIFE OF CANADA

INSIDE THE NEWS

A column of fact and comment on national and international affairs . . .

By J. K. EDMONDS

A REMARKABLE ARRAY of talent lined up on the platform at the First National Farm Forum sponsored by the Winnipeg Chamber of Commerce last week.

The presidents of the Canadian Bankers Association, the Canadian Federation of Agriculture, the Winnipeg Grain Exchange, and the **Chrysler Corp. of Canada**; the executive vice-president of the Canadian Labor Congress; and the Federal Minister of Agriculture all made speeches under the general title of "The Farmer in Canadian Affairs", and then took part in a question-and-answer free-for-all that occasionally resembled all-in wrestling.

The forum was patterned on similar meetings which have been held for years by the Chambers of Commerce in Minneapolis, Des Moines and Seattle.

The idea is to bring the farmers and businessmen out of their separate little seed plots, and get some cross-fertilization of ideas and perhaps some new varieties of approach to farm problems.

Of course, the whole point would have been missed if no farmers had turned up to talk to the businessmen. But by the middle of the first morning it was clear that this was nothing to worry about. The capacity audience was at least 50% farmers, and the questions fired at the afternoon panels were nearly all of farm origin.

(According to one Winnipeg newspaper, the businessmen were lucky to get a word in edgewise.)

* * *

FACING this kind of audience—half business, half farmer—was a novel experience for most of the speakers.

On the whole, they met the situation with a good deal of candor.

The Minister of Agriculture pointed out that in practice there are definite limits to the extent to which governments can support farm prices irrespective of the method employed.

The limits imposed are of two general kinds:

- **There is a definite**, and indeed a fairly early limit to the ability to dispose of supplies in excess of ordinary market requirements.
- **There is bound to be a limit** to the amount of money which the taxpayers will agree to spend on price support.

The president of the **Imperial Bank** pointed out that the farmer now has access to far more bank credit than he did a generation ago, and stressed that the problem of reorganizing and consolidating farms that are now too small to be profitable involves large amounts of long-term money—the kind chartered banks don't ordinarily supply.

The executive vice-president of the CLC (William Dodge) tackled, from labor's point of view, some of the issues on which farmer-labor relationships are most sensitive: inflation; foreign trade; railway wage rates and their effect on freight rates; farm implement costs; and made a strong pitch for farm support for the New Party.

(He closed with a curious suggestion that agriculture should be regarded in the same light as Canadian art, literature and drama: a tender plant to be nurtured at all costs. This seemed hardly tactful.)

* * *

THERE WAS plenty of talk about wheat marketing.

Stanley Jones of the Grain Exchange got a round of applause when he declared, "We haven't by any means exhausted our sales possibilities as a nation."

More than one speaker argued that the Wheat Board was doing a good job within its limitations but . . . .

Earle H. Greene **(Cargill Grain Co.)** in a speech delivered on his behalf by Stanley Jones argued that "what was originally designed as a marketing agency has now had its function diverted and varied and its operations gravely hampered by ad hoc approaches.

"This has arisen because we in agriculture, commerce and government have either failed or refused to recognize that, first of all, we cannot solve our problems by piecemeal action, and secondly we must not compromise the efficiency of either production or marketing to socio-political ends if we are to survive economically."

He argued for a joint farmer - government - business study of marketing and farm income as two separate problems needing separate solutions.

* * *

ONE OF THE best-received speeches at the forum was R. W. L. Todgham's **(Chrysler Corp.)** on "The Farmer and Industry".

He took a round-house swing at sectionalism.

"To all too many Canadians the title of my address will seem to be just another way of saying 'The West Versus the East'.

"Well, let me say at once and with emphasis—I am not here to talk about the West versus the East.

"The fact is I detest the principle of rabid sectionalism.

"I must remind you that the Western Canadian never has had any exclusive title to the word 'farmer' and Eastern Canada long ago lost the monopoly on the word 'industry' . . .

"Here we are, in this great and enlightened country, squabbling like fish-wives at almost every level of contact.

"Look at the adversaries in this undignified and pointless free-for-all: Old Canadians against New Canadians; labor against management; province against province; Newfoundland against the Mainland; the East against the West; industry against the farmer.

"Surely, if our society is to survive the threat of an ideology which already controls the lives of more than half the world's people, we must stop this nonsensical wrangling and rediscover the meaning of common effort for the good of all."

* * *

THIS SPEECH may have gained some of its impact from the fact that a flaming East-West row had broken out the afternoon before on the subject of freight assistance for feed grain.

By the end of the forum, just about everyone was assuming that it would become a regular event.

The Chamber of Commerce wasn't committing itself, but most members of the conference committee seemed to expect that there would be another effort to bring farm and industry viewpoints together and watch the sparks fly.

110TH ANNUAL REPORT

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	1959	1958
Profits	$ 415,293.25	$ 410,398.93
Taxes	173,000.00	163,000.00
Mortgages	16,092,585.19	15,809,177.55
Debentures	13,097,523.02	12,298,390.69
Investments	1,042,225.22	1,020,831.19
Capital	1,569,472.50	1,633,622.86
Reserve	935,000.00	875,000.00
Total Assets	17,553,715.22	16,919,054.28

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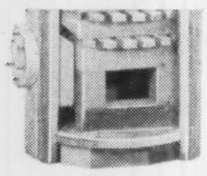

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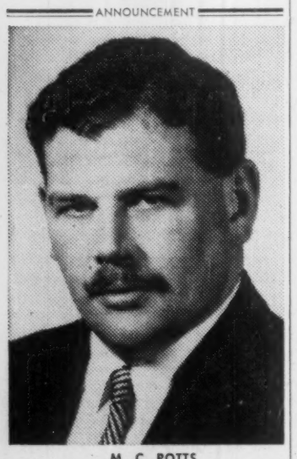

M. C. POTTS

The appointment of Mr. M. C. Potts as Executive Vice-President of Dowty Equipment of Canada Ltd. is announced by Mr. R. F. Hunt, Deputy Chairman of the Dowty Group Ltd., Cheltenham, England, and President of the Canadian Company.

A native of England, Mr. Potts served with distinction in the Royal Air Force during the War and shortly afterwards graduated in Engineering at Nottingham University where he was President of the Union. As a director of Dowty Mining Ltd. of Ajax, Ontario, he has in recent years travelled extensively in Canada and the United States.

The Dowty Group Companies in Canada, which manufacture and supply aircraft and industrial hydraulics, mining and logging equipment have entered the marine field with the development of the Dowty Turbocraft which introduces the jet propulsion principle to boating. In one of the company's four plants at Ajax, another subsidiary, Cametoid Ltd., is expanding in the plating industry.

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Box Score on Nestor's New Selections

	Price March 17/60 $	Index of Growth	UV-OV Levels	% above UVL	% to OVL	Earnings per share 1959 $	Indicated Dividend Rate $	Price-Earnings Ratio	Yield %
Algoma Steel Corp.	32⅞	6.9	27-52	22	58	3.05	1.20	10.8	3.65
Consumers' Gas Co.	35¾	*	30-52	19	45	1.85†	1.00	19.3	2.80
Du Pont of Canada Ltd.	21⅜	20.6	17-31	26	45	0.97	0.50	22.0	2.34
Cassiar Asbestos	11⅛	3.7	7-18	59	62	0.77†	0.60	14.4	5.39

*Over 40 years. †Year ended Sept. 30, 1959.

Nestor Picks Four New Stocks

By VINCENT EGAN

Four new names are now in Nestor's 26 Selected Growth Stocks — an investment feature appearing weekly in FP since Jan. 10, 1953.

Nestor (the pseudonym under which this professional investment manager writes) made four switches in his selection this week.

He selected four stocks which, in his opinion, indicate a greater potential for long-term growth than those being removed.

Here are his choices, and their closing prices on the Toronto Stock Exchange March 17, date of the switch:

- **Algoma Steel Corp.**, $32⅞.
- **Consumer's Gas Co.**, $35¾.
- **Du Pont of Canada Ltd.**, $21⅜.
- **Cassiar Asbestos Corp.**, $11⅛.

To make way for these four stocks, Nestor has withdrawn three others from the list. A place was made for one of them by the amalgamation of two of his original 1952 selections — **MacMillan & Bloedel Ltd.** and **Powell River Co.**

Nestor emphasizes that the changes do not mean that the companies being withdrawn are no longer in the growth category.

However, by his tests, he feels that the new companies are showing a greater growth potential for the longer term. Over the short term, he points out, the growth stocks may perform no better than stocks in general.

Deletions are **Atlas Steels Ltd., Canada Cement Co.**, and **Asbestos Corp.**

Here are brief descriptions of the stocks added:

Algoma Steel

Company is Canada's largest producer of pig iron and coke, the second largest integrated steel company, and a major producer of iron ore.

Its location, at Sault Ste. Marie, is close to its raw material sources, and helps to reduce its assembly cost for basic steel.

Much of its output is concentrated in products with a comparatively low labor content.

Formerly dependent upon rails, semi-finished products and other cyclical products, Algoma since 1949 has considerably diversified its product range.

The diversification and expansion program has been financed largely through retained earnings.

As a result of this program, Algoma is now in a position to meet profitably any increase in Canadian demand for steel.

Consumer's Gas

Company has grown apace with the increasing use of natural and propane gas in the heavily populated southern Ontario area it serves, and is extending its operations into adjoining areas of Quebec and New York.

In the four years 1956-59, mileage of its network of mains more than trebled.

No immediate end is foreseen to Consumers' expansion needs. Its franchise areas continue to show a rapid rate of population increase, while natural gas is being widely specified in new house construction plans.

DuPont of Canada

Company has shown a consistent improvement in sales and profits during recent years, thanks to rising demand for its products (packaging films, textile fibres, explosives, finishes and chemicals), sound marketing methods, and improved operating efficiency.

Large scale expansion program has given Du Pont a new polyethylene resin plant, a new polyethylene film plant, an acrylic polymer plant and a hydrogen peroxide plant.

Du Pont has ready access to the research and technical knowledge of its U. S. controlling company, **E. I. du Pont de Nemours.**

Cassiar Asbestos

Company owns a producing mine in the McDame Lake area of northeastern British Columbia. Development work indicates a long life for the mine, and expansion plans have been and are being carried out.

Earnings in recent years have shown a pattern of steady if not spectacular growth. As profits have risen, distribution to shareholders has also increased.

The need for constant review of any selected list of stocks — no matter how carefully chosen in the first place — is underlined by a comparison of the performance, since 1952, of the Nestor list as it was constituted at Dec. 31, 1959, with the changes that took place in the original list of 26 stocks in the same seven-year period.

The altered list of 26 stocks had advanced 69.9%; the original 26 would have advanced 58.3% in the same period.

The 16 growth companies, as revised, were 105.8% higher; the original 16, 87.1% higher.

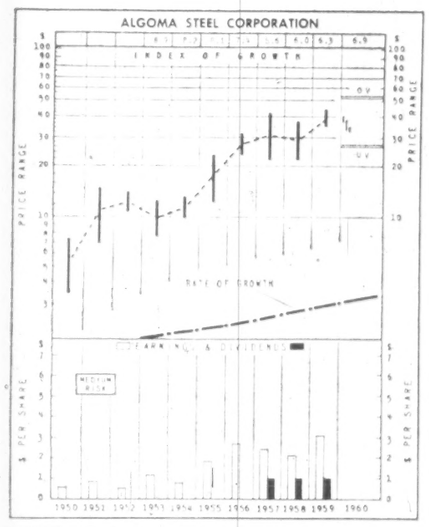
The process of substitution isn't infallible. The 10 natural resource companies, as revised, had advanced 11.3%. The advance, without the two substitutions, would have been 12.1%.

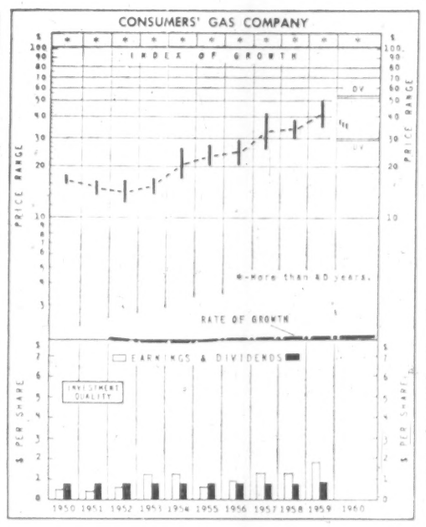
But the principle of watchfulness and flexibility has been profitable over-all.

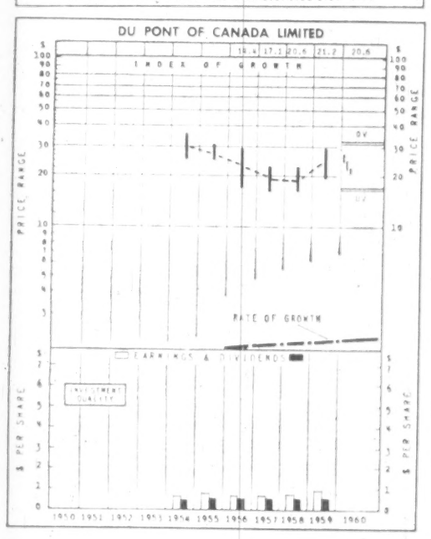
This is shown even more strikingly in a comparison of the eight stocks removed by the end of 1959, with their substitutions.

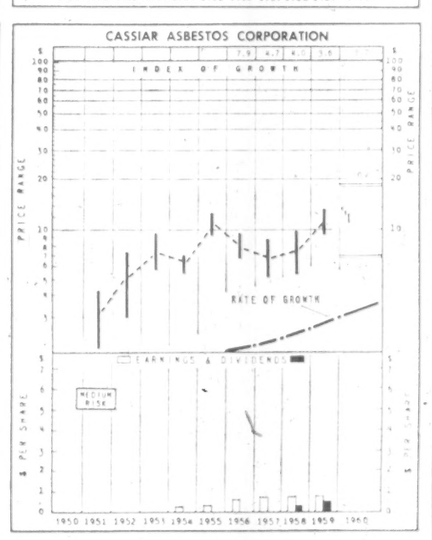
Prices of six of the eight removed were higher when the market closed Dec. 31, 1959, than they were when they were removed. Average gain for the eight was 17%.

But the eight substitutions averaged a 37% gain since they came into the Nestor list — this despite the fact that three of the eight had actually declined.









The New Selections

Algoma Steel Corp.

Capitalization*	Authorized	Issued	Outstanding
Debentures:			
5¼% s.f. debentures, series A, due 1798	•	$25,000,000	$24,000,000
Series B		11,136,000	‡9,802,004
Common, no par value	§15,099,880 sh.	5,766,180 sh.	5,766,180 sh.

*No set amount, but subject to conditions set forth in the trust deed.

‡Pledged as collateral security against a loan of the same amount repayable by Dec. 31, 1967, in monthly installments contingent on sales made to the lender.

§Of which 108,000 shares are under option or reserved under the option plan.

*At Dec. 31, 1959.

Directors: Hon. T. A. Crerar, Winnipeg; Henry S. Hamilton, Q.C., John D. Barber, David S. Holbrook, Sault Ste. Marie, Ont.; E. Gordon McMillan, Q.C., J. S. D. Tory, O.B.E., Q.C., S.J.D., Toronto; James Muir, D.C.L., Wilbert H. Howard, C.B.E., Q.C., T. R. McLagan, O.B.E., George C. Bateman, C.M.G., O.B.E., Montreal; Sir Philip Dunn, Bart., London, Eng.; Wilhelm Zangen, Dusseldorf, Germany.

Price Range: 1960 (to March 17), $40½-32¼. 1959, $42¼-39¾.

Consumers' Gas Co.

Capitalization*	Authorized	Issued	Outstanding
3¾% 1st mtge. bonds, ser. A, due Nov. 1, 1974	•	$9,000,000	$8,600,000
5% 1st mtge. bonds, ser. B, due Feb. 1, 1978	•	20,000,000	20,000,000
4¼% s.f. debentures, due Dec. 1, 1974	•	7,500,000	7,100,000
4¾% s.f. debentures, due June 1, 1976	•	10,000,000	10,000,000
5¾% s.f. debentures, due Feb. 1, 1977	•	6,000,000	6,000,000
6½% s.f. debentures, due Dec. 15, 1979	•	10,000,000	10,000,000
Preference shares, $100 par	$25,000,000		
5½% cum., series A		5,000,000	5,000,000
5½% cum., series B		10,000,000	10,000,000
Common stock, n.p.v.	2,500,000 sh.	†2,166,516 sh.	†2,166,516 sh.

*No fixed limitation, but subject to restrictions set forth in the trust deed.

*After giving effect to issuance of $10,000,000 6½% sinking fund debentures and 309,472 common shares pursuant to the offering of rights, in Dec., 1959.

†As at January 29, 1960.

Directors: A. L. Bishop, J. K. Macdonald, A. R. Poyntz, Walter C. Laidlaw, J. A. Northey, Ralph R. Carson, Hon. G. P. Campbell, Q.C., LL.D., Oakah L. Jones, Miss M. Geary, W. H. Zimmerman, G. E. Creber, and His Worship The Mayor‡; all of Toronto.

‡Ex-officio.

Price Range: 1960 (to March 17), $38⅛-34. 1959, $47½-34.

Du Pont of Canada Ltd.

Capitalization*	Authorized	Issued	Outstanding
Pref. 7½% cum., par value $50	$2,325,000	$2,325,000	$2,325,000
Com., voting, no par value	13,500,000 sh.	7,226,892 sh.	7,226,892 sh.

*At Dec. 31, 1958.

Directors: G. W. Huggett, J. M. Breen, F. S. Capon, Montreal; Herbert H. Lank, Robert G. Beck, Westmount, Que.; R. Russell Pippin, Robert L. Richards, R. L. Hershey, Wilmington, Delaware; Lammot duP. Copeland, Greenville, Delaware; Hugh H. Lawson, Toronto; J. K. Jenney, Montchanin, Del.; W. S. Carpenter, III., Wilmington, Del.

Price Range: 1960 (to March 17), $26⅛-21. 1959, $29¾-25.

Cassiar Asbestos Corp.

Capitalization*	Authorized	Issued	Outstanding
Common shares, npv	4,000,000	3,960,000	3,960,000

*At Sept. 30, 1959.

Directors: F. M. Connell, C. R. Elliott, J. E. Kennedy, J. M. Connell, Toronto; W. Harold Connell, Spencerville, Ont.; K. A. Creery, Montreal; G. W. Smith, Thetford Mines, Que.; John Drybrough, Winnipeg; S. R. Zimmerman, Jr., Manheim, Pa.; P. Malozemoff, E. S. W. Hunt, New York.

Price Range: 1960 (to March 17), $13¾-10⅞. 1959, $13-9.40.

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Noranda Earnings Rise 21% Extra Write-Offs Pare Gain

- *Noranda adds $9 million to working capital . . .*
- *Higher gas prices for Pacific Pete this year . . .*

By NESTOR

NORANDA MINES boosted profits 21% in 1959, as copper demand surged and prices climbed.

Net profit was $2.55 a share, ahead from $2.10 in 1958. It would have been over $3 a share, but extra depreciation write-offs on the Cutler acid plant pared the gain.

Depreciation on the Cutler plant was increased to the full extent of the profits of the operation as result of pending adjustments in the Blind River uranium industry.

The Cutler plant, supplying sulphuric acid to many of the uranium mines in Blind River, operated near capacity throughout last year. Production totaled 344,500 tons of acid.

The current changes in production rate at the Blind River camp, with producers stretching out beyond 1963, will reduce acid sales below the annual rate originally expected. However, it will mean a longer term of operation to cover present uranium contracts.

Noranda held capital expenditures to $632,000 last year, down from over $4 million in 1958. As result of the minimal expenditures, the company was able to reduce long term debt by $1.1 million to $35.7 million and increase working capital by nearly $9 million to $20.2 million.

President John R. Bradfield predicts a further improvement in the financial position this year.

On an average, copper prices were 18% above 1958 levels last year. This was the biggest factor in Noranda's increased earnings.

This year the outlook is not as bright. The temporary shortages created by the prolonged strike in the U. S. copper producing industry sparked the price rise. Now producers are busy refilling supply pipelines and this is expected to be completed by mid-year. Then worldwide surplus productive capacity is expected to result in lower prices.

Subsidiary and associated companies were hit last year by the U. S. import restrictions on lead and zinc. The effects of the import restrictions were partially offset by higher price of zinc as demand improved. These restrictions are expected to continue through this year and will mean that the producers will have to scramble to find other export markets.

Among its subsidiaries and associates, the producing mines reported improved profits last year while the fabricating companies took cuts. **Canada Wire & Cable,** faced with increased foreign competition, had a 5c drop in profit to 43c a share, and cuts its dividend by 30c, to 50c a share.

This was more than offset by increased dividend receipts from **Hallnor Mines, Mining Corp. of Canada, Pamour Porcupine Mines,** and **Waite Amulet Mines.**

In exploration, Noranda has started a probe of the Horne mine to test ore possibilities below 6,000 ft. In outside ventures it continued its participation in development work at **Mattagami Lake Mines'** zinc property in northwestern Quebec. And it increased its participation in **Orchan Mines,** currently drilling a copper-zinc property in the same area.

Both Mattagami Lake Mines and **Craigmont Mines,** developing a copper property in B. C., may mean new spending for Noranda. It is participating in both developments to extent of about 33⅓, and it is expected that both will announce final production plans by the end of this year.

At recent market price of $40⅞, common stock is 2% above UV level ($40), could rise 86% before reaching OV level ($76). Price is 16.0 times 1959 earnings of $2.55 per share. Yield is 4.89% at indicated annual dividend rate of $2.00 per share. Price this year has ranged between a high of $48¾, a low of $40.

• • •

PACIFIC PETROLEUMS is expected to show an increased loss in its latest fiscal year ended Feb. 29.

In the fiscal first half, to Nov. 30, 1959, net return before operating expenses was ahead 21% at $8,021,265. After operating expenses but before write-offs the net was $2,077,056, ahead from $725,175 in the previous year. Estimated net loss for the half year period is not given.

But in the first five months alone, the net loss was about $4 million, an increase of about 60%.

Main factor in the increased revenue in the latest period was a 4,035 bbl. per day increase in oil output, to an average of 10,869 b/d. By early December, deliveries had increased further to over 11,250 b/d.

Gas deliveries also moved higher, averaging 77 million cu. ft. daily, and reaching 91 million cu. ft. by early December. In addition to the stepped up sales, a higher gas price will help earnings this year. Effective Jan. 1, the field price of gas was increased from 6¼c to 9¼c per mcf.

Pacific is still stressing natural gas developments. In the first half, a total of 19 wildcat tests were completed of which 10 were successful gas wells and two were oil wells.

Since then it has made a new gas discovery in the northern region of B. C. In February Pacific announced completion of a gas success in the Kotcho Lake area about 5 mi. north of the **Gulf States** Kotcho well near the Yuke.. border. The Gulf States well was one of the largest gas wells ever found in Western Canada, and Pacific says there is evidence that the latest well is on the same reservoir.

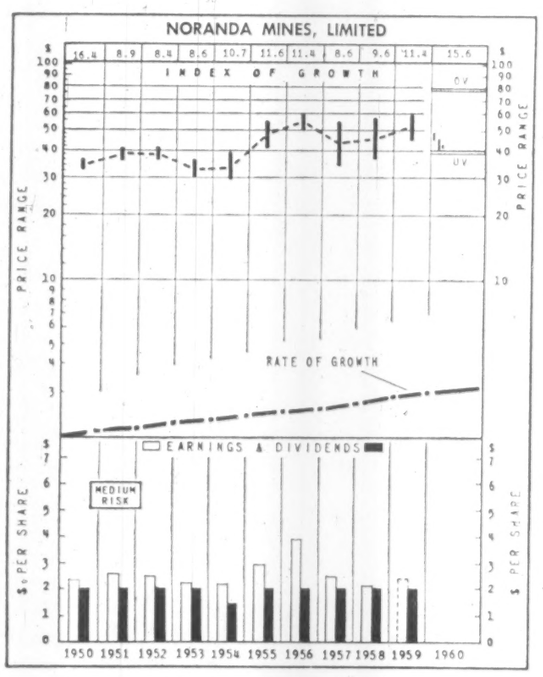
Pacific has since started a second step-out well, 3 mi. to the north. These wells are located on permits totaling about 110,000 acres.

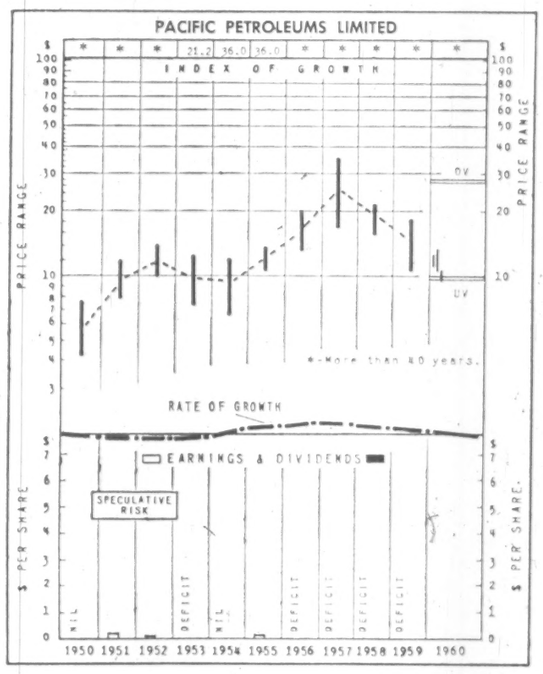
Highlight of gas exploration last year was discovery of reserves in the Jedney-Bubble - Laprise area of northeastern B. C. A 25-mile extension of the **Westcoast Transmission** gas pipeline system was completed to the area last November. Sales from the area, which started at 12 million cu. ft. per day are expected to stabilize at 50 million cu. ft. Additional gathering facilities are planned this year.

Pacific has a major stake in the upcoming decision of the National Energy Board on gas exports to the U. S. In addition to its 27% interest in Westcoast Transmission, Pacific has an interest through Westcoast in **Alberta Natural Gas Ltd.** This company is planning a $40 million 107-mi. gas line to link southwestern Alberta with the U. S. Pacific northwest.

Expansion programs at the Taylor, B. C. refinery, jointly owned by Pacific and **Phillips Petroleum,** are still under way. Last year new facilities for the better recovery of pentanes and butanes were completed. By this fall new cracking and alkylation facilities should be completed.

At recent market price of $11¾, common stock is 18% above UV level ($10), could rise 130% before reaching OV level ($27). Company is expected to show a loss for fiscal year ended Feb. 29, 1960. No dividend is being paid. Price this year has ranged between a high of $12⅝, a low of $9.35.





How to Read Nestor's Special Stock Charts

INDEX OF GROWTH: The rate at which the value of the equity behind the stock is doubling as determined by the growth rate at which it entered the year. A figure of 5.6 for the present year would indicate that at its current growth rate the equity value is doubling every 5.6 years.

PRICE RANGE: The annual high, low and mean price. Monthly ranges for the current year.

UNDERVALUATION AND OVERVALUATION PRICE LEVELS: Shown by the narrow horizontal lines above and below the stock's price range indicating price at which the particular stock is adjudged as underestimating or overestimating its future rate of growth. A stock showing a fast growth rate will sometimes anticipate growth by two or three years. In this case it may not be so attractive a purchase relatively as some other fast-growing stock that is not anticipating its growth beyond the immediate present. Other factors such as rate of growth and investment quality will also enter into the comparison an investor will want to make.

Without these UV or OV levels a current quotation of, say, 55 or 75 would carry no significance regarding long-range value. The UV/OV levels also permit judgment as between one stock and another. They are not designated points of purchase or sale nor do they attempt to show what will be a stock's bottom or top figures in any given year.

RATE OF GROWTH: The rate as based on Nestor's tests at which the company is showing underlying or long-term growth. This will determine the price trend of the company's common stock over a period of years and in most instances the trend of dividend payments.

**Background and principles behind the selection by Nestor were discussed in a special article in FP Jan. 10, 1953. A limited number of reprints are available on request.*

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Parliament's Business

By FP's OTTAWA STAFF

Sharing the Taxes

THE SHAPE of Finance Minister Fleming's interim taxation deal for the provinces became a little clearer in the debate on the resolution preceding the bill to amend the Federal-Provincial Tax-Sharing Arrangements Act.

Fleming explained some details of his new proposals but left fundamental questions raised by the Opposition unanswered as the Commons accepted the resolution.

First reading of the bill (when it will be printed and distributed to MPs) was left nine items away in order of business on the Commons' order paper. This means that full disclosure of the new arrangements won't be made for some days.

As explained by Fleming, the amendments are of two kinds:

• **One group will adjust the tax-rental formula so that provinces renting the personal income tax field to the federal government will continue to receive a rental of 13% of collections for the two fiscal years 1960-62.**

The provinces and the dominion are at the mid-point of a five-year tax-rental agreement which expires March 31, 1962. The agreement (inherited from the Liberals) originally returned to the provinces 10% of personal income tax, 9% of corporation tax and 50% of succession duties. For the two fiscal years 1958-60, the government raised the rental for personal income tax to 13%, thereby handing the provinces extra sums of $56 million and $65 million respectively.

• **Although the second group of amendments is designed to settle the eight-year dispute with Quebec, Fleming didn't answer questions about whether Quebec had agreed to accept the new arrangements.** Presumably he will answer during one of the real debates which the bill is bound to provoke — during second or third reading.

The second group of amendments, Fleming said, will offer any province which wishes, the alternative of paying its own university grants by collecting corporation tax.

Only two provinces, Ontario and Quebec, now collect this. Quebec collects at the rate of 9% of taxable income which is fully abated against the federal corporation tax; Ontario collects an 11% corporation tax, but the companies paying it can't abate the extra 2%. All other provinces rent their corporation tax fields to the dominion and receive rental payments at the 9% level.

Under the new arrangement, Ontario and Quebec can get an additional 1% abatement of corporation tax from the federal government; this will enable them to raise their corporation taxes by this amount and pay university grants equal to $1.50 per head of provincial population.

The eight other provinces which don't collect corporation taxes will be offered the alternative, Fleming said, "of revising the tax rental agreement and resuming the collection of (their) own corporation tax." A province doing this would get an abatement of 10% of federal corporation tax, and could use one percentage point of tax to pay university grants.

If the corporation tax abatement yields an amount greater than provincial population times $1.50, the difference will be deducted from other payments made under the tax-sharing deal. If the tax abatement yield is less, the difference will be added to other payments made to the provinces.

Using 1959-60 figures, an extra 1% of corporation tax will yield $9.8 million in Quebec; and university grants at $1.50 come to $7.5 million. The federal government must recover the $2.3 million difference by deducting it from the Quebec equalization payments.

Although Lionel Chevrier asked, Parliament didn't find out whether Quebec had agreed to this deduction.

The fact that Quebec's new university grants bill calls for payments at the rate of $1.75 per head of provincial population has caused speculation here that Quebec and the dominion still haven't agreed about returning the difference between taxes collected and grants paid out.

Premier Barrette provided support for this view early this month (FP, March 5) by remarking that Quebec might pay grants at the $2 level.

If Quebec does pay grants at these levels, it will presumably have to make up the extra 25c or 50c itself. Under the new amendments as outlined by Fleming, Quebec would not be allowed to retain more than sufficient to pay grants at the $1.50 level from the new corporation tax abatement.

If Quebec were allowed to retain more, the non-discriminatory basis of the whole university grants arrangement would be threatened.

ANNOUNCEMENT

BLAIR FRASER NOW EDITOR OF MACLEAN'S MAGAZINE . . . LONDON AND WASHINGTON BUREAUS OPENED

BLAIR FRASER

KEN LEFOLII

LESLIE F. HANNON

PETER C. NEWMAN

IAN SCLANDERS

Maclean's Magazine announces immediate appointments to five senior editorial positions:

Mr. Blair Fraser becomes editor, succeeding Mr. Ralph Allen who will remain as an editorial consultant and a member of the board of directors of Maclean-Hunter Publishing Co., Ltd.

Mr. Fraser is well-known to Canadian and international audiences as a writer, speaker and commentator. He has been Maclean's Ottawa editor since 1943 and has toured the world many times reporting for this magazine.

Mr. Ken Lefolii becomes Maclean's managing editor. Formerly the magazine's Quebec editor, he represents a large group of young editors who have been added to the magazine's staff in recent months.

Mr. Leslie F. Hannon, formerly managing editor, will establish a new European bureau for Maclean's, with headquarters in London, England. Mr. Peter C. Newman becomes Maclean's senior Ottawa editor. Mr. Ian Sclanders will open a United States bureau for Maclean's in Washington, D.C.

These appointments reflect Maclean's continuous growth and vitality. The Canadian character of the national magazine will be unchanged under Fraser and Lefolii, but there will be a sharp increase in reporting major international developments from the Canadian viewpoint.

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Profits Here?

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TRANS-CANADA PIPE LINES LTD.—Wisener & Co., 73 King St. W., Toronto.

Short Position Falls on TSE

Short position on the Toronto Stock Exchange fell to 1,705,435 shares of 222 issues on March 15, compared with 1,727,623 shares of 212 isues on Feb. 29.

Among the changes were:

Stock	Shares	Stock	Shares
Alberta Dist	+1,000	Massey-Ferg	+600
Aluminium	—1,000	N Bidlam	—47,000
Bankeno	+25,000	New Hosco	—9,000
Cdn Brew	+600	Northspan	—7,200
C Devonian	—800	Orchan	—76,900
Can-Erin	+15,000	Provo	+9,367
Can-Met	—26,500	Radiore	+12,200
Cockshutt	—800	Royalite	+300
C Mosher	+13,500	Sherritt	—900
Dyn Pete	+13,300	Simpsons	+429
Gunnar	+7,900	Stand Wire	+1,500
Int Nickel	+350	Un Oils	+8,300
Kilembe w	+22,600	Willroy	+13,300
Loblaw B	+500	Young H G	—12,500

Here are the short positions in detail:

Stock	Shares	Stock	Shares
Abacus	500	Do Wts	500
Abitibi	450	Kelly Doug A	375
Advocate	1,200	Do Wts	200
Alberta Dist	4,400	Kilembe	3,600
Alberta Gas	300	Do Wts	45,900
Alberta Pac	500	Labatt	125
Algom Ur	900	Labrador	1,000
Algoma Stl	675	L Dufault	2,000
Aluminium	1,400	Lakeland N G	500
Ansil	1,000	Lamaque	500
Assoc Arc	11,500	Latin Amer	6,000
Atlantic C C	700	Leitch	500
Atlas Stl	300	Little L Lac	900
Aumaque	29,500	Loblaw A Wts	185
Bk Montreal	75	Do B	500
Bankeno	32,000	Do Inc	250
Barnat	2,100	Lorado	21,000
Belcher	1,500	Do Wts	3,950
Bell Phone	100	Madsen	300
Bowater Paper	100	Maritimes	9,300
Britalta	1,100	Martin	1,000
B A Oil	200	Massey-Ferg	800
B C Forest	500	McWatters	5,000
Brockville p	100	Medallion	600
Brown	800	Merrill	500
Brunswick	3,900	Milliken	6,000
Buffalo Anik	1,000	Moly Wts	300
Campbell Ch	900	Moore	550
Can Cement	325	Mt Wright	6,500
Can South P	1,200	New Bid	18,000
Cdn Breweries	625	New Calumet	3,000
Cdn Celanese	150	N Continental	500
Cdn Chemical	100	N Dickenson	5,000
Cdn Collieries	1,500	New Hosco	13,000
Cdn Devonian	900	N Mylamaq	252,000
Cdn Dyno	2,500	Noranda	500
C Export G	2,200	Norbeau	1,500
C Husky w	2,460	Normetal	4,300
C Hydrocarb	300	N Cdn Oil	200
C Malartic	10,500	Do Wts	500
Cdn Marconi	100	N Coldstream	9,800
C Petrof p	500	Northgate	4,000
Can-Erin	304,200	N Rankin	35,100
Can-Met	96,000	Northspan	23,800
Central Pat	100	Do Wts	12,700
Chesterville	5,000	N Star Wts	1,400
Chib Jacuiet	1,000	Opemiska	2,400
Chib Mng S	1,000	Orchan	199,600
Chromium	1,000	Pacific Pete	200
Cochenour	1,100	Do Wts	4,440
Cockshutt	700	Page Hersey	100
Cody Reco	3,000	Patino Wts	300
Con Denison	1,800	Peerless	1,500
Con Den w	34,080	Pembina	121
Con Dragon	1,000	Permo Pr	1,300
Con Halliwell	7,000	Peruvian	200
Con Howey	1,100	Petrol	3,100
Con Mic Mac	900	Place Gas	1,900
Con Smelters	100	Portage I	3,500
Con Mogul	1,000	Powell Rouyn	1,000
Con Mosher	13,500	Preston	500
Con Northland	500	Provo	11,567
Copper Rand	3,400	Que Copper	1,600
Coulee	5,000	Que Smelth	200
Creative Tel	2,300	Radiore	19,100
Cree Wts	300	Ranger	400
Crush Inter	100	Rayrock	5,000
Deer Horn	8,500	Rockwin	2,000
Dev Palmer	1,000	Royal Bank	125
Dom Found	150	Royalite	900
Dom Stores	100	St Lawr Corp	200
Donalda	2,000	Salada	200
Dyn Pete	30,100	Security	500
E Malartic	11,300	Sherritt	2,000
E Sullivan	500	Simpsons	529
Elder	25,600	Siscoe	1,000
Eureka	2,000	S K D	5,100
Falconbridge	200	Stand Wire	600
Fatima	6,500	Steel Can	200
Geco	1,550	Steep Rock	3,825
Gen Develop	2,150	Steinberg A	450
Gen Motors	100	Submarine	1,400
Giant Y K	900	Super Prop	100
Goldfields	500	Temagami	11,700
Grandroy	2,000	Texaco	25
Granduc	800	Thompson L	5,000
Great L Paper	525	Tidal	4,400
Great W Sadd	100	Tombill	1,000
Gtr Wpg Gas	365	Torbrit	2,000
Gtr Wpg 58 w	100	Tor Dom Bk	375
Gunnar	10,000	Trad Fin A	325
Gunnar Wts	38,180	Tr Mntn Pl	450
Hees G H	600	Ult Shawkey	1,000
Hollinger	700	Union Gas	300
Hud Bay Mng	575	Un Asbestos	10,500
Hud Bay O	241	Un Oils	9,300
Huron & Erie	100	Un Keno	500
Imperial Oil	900	Un Steel	100
Ind Accept	200	Upper Can	500
Inland N G	200	Violamac	8,500
Do Wts	500	Walkers	150
Int Nickel	650	Webb & Knapp	400
Int Paper	50	Westburne	632
Int Utilities	25	West Cdn Oil	1,300
Investors Synd	50	Westates	500
Do A	100	West Decalta	300
Irish Copper	21,150	Weston A	175
Iron Bay	7,100	Do Wts	360
Jack Waite	20,500	Willroy	18,400
Jacobus	22,000	Young	17,000
Jockey	650		

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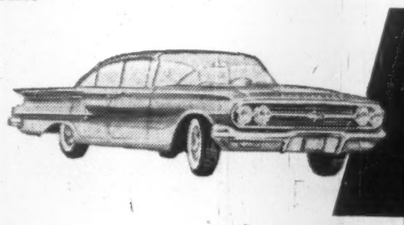

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Company Reports

Manufacturing

JAMES ROBERTSON CO., Montreal, net profit of $190,119 for year ended Nov. 30, 1959 was 170.7% higher than previous year's $70,228.

An additional $65,722 has been invested in marketable securities.

Land and buildings in Scarborough were purchased for a distribution centre in eastern Toronto.

Company became distributor of Youngstown Kitchen Products for Ontario on Dec. 1, 1959, giving it sole distribution rights in all eastern Canada.

President and Managing Director Ivan R. Leger says developments indicate increased sales in 1960.

CONDENSED INCOME ACCOUNT

Years Ended Nov. 30:	1959	1958
Operating revenue	$163,271	$101,580
Add: Invest. inc.	33,642	27,567
Prof. sale assets inv.	89,831	13,783
Net earnings	293,744	142,930
Less: Deprec.	52,625	53,702
Income taxes	51,000	19,000
Net profit	190,119	70,228
Less: Dividends	125,000	125,000
Surplus	65,119	▪54,772
▪Deficit.		
Earnings per Share and Dividend Record:		
Common: Earned	$1.52	$0.56
Paid	1.00	1.00
Shares o/s as at Dec. 31:		
Common, n.p.v.	125,000	125,000

CONDENSED BALANCE SHEET

As at Nov. 30:	1959	1958
Cash	$14,736	$240,988
Mkt. sec.*	701,050	635,327
Accts. rec. less res.	2,054,209	1,504,216
Inventories	901,264	781,757
Prep. exps.	26,572	34,044
Life ins., c.s.v.	49,825	45,180
Total curr. assets	3,747,736	3,241,512
Invest. in subsid.	1,174	1,174
Fixed assets▲	823,709	795,995
Total assets	4,572,619	4,038,681
Accts., etc., pay.	1,193,340	734,157
Income tax	9,636	.....
Total curr. liabs.	1,202,976	734,157
Capital stock	1,188,740	1,188,740
Earned surplus	2,180,903	2,115,784
*Market value	764,000	806,133
▲After deprec. of	445,246	405,909
Working capital	2,544,760	2,507,355

Textiles

WOODS MANUFACTURING CO., Montreal, net profit amounted to $262,591 for 1959. In 1958, net profit totaled $63,363.

Profit from operations for the year was $8,117, compared with a loss of $546,831 for the previous year. Investment income was $123 lower at $270,806.

Capital expenditures for plant modernization amounted to $831,579.

Operating results of **Wabasso Cotton Co.** were improved but not sufficiently to provide for depreciation at full normal rates.

Sales and profits of the bag division of **Woods Bag & Canvas Co.** were better than in the previous year. Canvas division substantially reduced the loss sustained in 1958.

Profit margins of **Woods-Dryden Paper Bags Ltd.** were reduced, although the volume of business handled was maintained.

Chairman and President H. Roy Crabtree points out that the primary textile industry continues to suffer severely from import competition.

CONS. INCOME ACCOUNT

Years Ended Dec. 31:	1959	1958
Net oper. income	$1,101,486	‡$126,547
Add: Inv. income	270,806	270,929
Prof. on sale of f.a. & invest.	.....	339,753
Less: Loss on disp. f.a.	14,830	.....
Net earnings	1,357,462	484,135
Less: Deprec.	993,535	307,546
Debents. int. (net)	98,583	112,738
Income tax	1,250	.....
Minority interest	1,503	487
Net profit	262,591	63,364
Less: Cl. A divd.	120,000	120,000
Com. divd.	†	†
Surplus for year	142,591	‡56,636
‡Loss or deficit.		
†Stock dividend of one cl. B 4% non-cum. red pf. $1 par value for each sh. held Red. June in 1958 and 1959.		
Times Debenture Interest Earned:		
Before deprec.	13.77	4.29
After deprec.	3.69	1.57
Earnings per Share and Dividend Record:		
Class A	$4.38	$1.06
Paid	2.50	2.00
Common	1.27	d0.50
Paid	†	†
See (†) footnote above.		
Shares o/s as at Dec. 31:		
Class A, $50 par	60,000	60,000
Common, n.p.v.	112,364	112,364

CONDENSED CONS. BALANCE SHEET

As at Dec. 31:	1959	1958
Cash	$24,209	$38,061
Accts., etc., rec., less res.	2,976,030	2,416,279
Inventories▲	7,766,597	7,049,488
Prepaid exp.	70,425	92,425
Total curr. assets	10,837,261	9,596,253
Investments	1,966,589	1,981,589
Fixed assets*	7,674,984	7,868,360
Total assets	20,478,834	19,446,202
Bank loans	3,975,836	2,247,500
Accts., etc., pay.	1,468,530	1,837,144
Taxes pay.	169,031	113,945
Debents. due	400,000	400,000
Total curr. liab.	6,013,417	4,598,589
General res.	1,000,000	1,000,000
Minority interest	44,560	56,983
Funded debt	2,200,000	2,600,000
Capital stock	6,477,400	6,477,400
Capital surplus	337,092	224,728
Earned surplus	4,406,365	4,488,502
*After depr. of	21,396,717	20,584,704
▲At lower of cost or market, less reserve.		
Working capital	4,823,844	4,997,664

Oil

HUDSON'S BAY OIL & GAS CO. and subsidiaries had a net profit of $2,821,000 in 1959, equal to 16c a share. This compared with a net income of $1,316,000, or 7c in the previous year.

The improved earnings resulted primarily from increased natural gas sales and reduced dry hole costs. Special credits, primarily from sales of properties, raised total net income to $3,764,000 in 1959.

Net crude oil production averaged 21,144 b/d in 1959 — an increase of 1,045 b/d over 1958. Sales of natural gas averaged 47.9 million cu. ft. daily compared with 14.4 million cu. ft. daily for the previous year.

Most of the improvement in oil production in western Canada was cancelled by general price reductions averaging 14c per bbl. for the year.

Early approval of natural gas exports on practical terms would act as a spur to construction of new pipelines and allow commencement, late in 1960, of natural gas deliveries to the midwestern area of U.S., president G. T. Pearson states.

In addition to its reserves of natural gas currently being produced the company has substantial reserves presently shut in but being committed for sale as opportunities arise. Firm contracts have been completed for sales of 7.1 million cu. ft. daily, most of which will commence in 1960. Additional contracts have been negotiated for sale of 40.3 million cu. ft. daily.

In 1959, company participated in drilling of 185 exploratory and development wells. At year end company had 677 net wells capable of production, 605.8 net oil wells and 71.2 net gas wells.

A major portion of company's new exploratory acreage acquired during year is located in northeastern B.C. and the Northwest Territories. Company also acquired permits in the Athabaska tar sands in northeastern Alberta.

CONSOL. INCOME ACCOUNT

Years Ended Dec. 31:	1959	1958
	$	$
Gross oper. income	20,974,000	19,394,918
Add: Interest	355,000	529,635
Less: Admin. & gen. exps.	9,250,000	8,284,563
Dry holes	2,210,000	3,283,206
Depletion	3,675,000	3,778,470
Depreciation	2,188,000	1,837,179
Interest	1,185,000	1,267,747
Deferred inc. tax	.....	155,000
Net profit*	2,821,000	1,316,388
*Exclusive of nonrecurring gains from sale of properties in 1959 of $943,000 and sale of investments in 1958 of $2,471,376.		
Earnings per Share and Dividend Record:		
Earned	$0.16	$0.07
None paid.		
Shares o/s at Dec. 31:		
Common, $2.50 par	17,744,592	17,744,592

CONDENSED CONS. BALANCE SHEET

As at Dec. 31:	1959	1958
Cash	$608,000	$757,160
Accts. rec.	5,351,000	3,904,751
Deposits & sec.	10,041,000	9,709,752
Inventory	1,826,000	2,176,330
Total curr. assets	17,826,000	16,547,993
Invest. in other cos.	474,000	480,041
Plant, prop. & equip.†	79,471,000	77,082,091
Other assets	1,128,000	800,189
Oil & gas rts.	1,000	1
Total assets	98,900,000	94,910,315
Total curr. liabs.	4,533,000	3,864,574
Funded debt	26,500,000	27,600,000
Deferred inc. tax	.....	155,000
Deferred credit	812,000	.....
Capital stock	44,362,000	44,361,480
Capital surplus	14,512,000	14,512,340
Earned surplus	8,181,000	4,416,921
†After depr. & depl. of	26,338,000	21,294,870
Working capital	13,293,000	12,683,419

CANADIAN OIL COS., Toronto, consolidated net profit of $3,636,492 in 1959 was 11.8% higher than 1958's $3,250,448.

Sales were up 11% to a new high of 462 million gal., but dollar volume rose only 6% to $91.3 million, reflecting lower sales value per unit, President W. Harold Rea reports.

The year was the most difficult yet experienced in the marketing of petroleum products. Surplus of production potential at home, along with new world discoveries, exerted pressure on oil prices.

Outlook for 1960 is better, the president says. With consumption increasing, there will likely be a narrowing tendency of the margin between supply and demand.

A new throughput record was established at Sarnia refinery, where 11 million bbl. of crude were processed, a 10% increase over 1958. Some 120 new outlets were opened in 1959.

Crude oil reserves at Dec. 31, 1959, amounted to 33.3 million bbl. and natural gas reserves to 120,000 cu. ft. Interests are held in 285 oil and 17 gas wells. December production —4,170 bbl. per day—was about half the maximum permissible rate for the wells.

Undeveloped acreage totals 1.9 million acres, in which a net interest of 858,000 acres is held. Participations were taken in 33 development wells of which 27 were successful, and in 19 exploratory tests.

Efforts in 1960 will be made towards more extensive exploratory drilling and implementing of unit operations. "Management looks for a better year in 1960," the president says.

Capital expenditures in 1959 were $12.3 million compared with $10 million in the previous year. Completion of new crude oil distillation unit at Sarnia refinery raised daily crude oil capacity to 50,000 bbl.

CONS. INCOME ACCOUNT

Years Ended Dec. 31:	1959	1958
	$	$
Sales	91,365,121	85,928,437
Net earnings	16,087,518	14,033,431
Less: Deprec., depl. & amort.	6,625,175	6,412,780
Expl. costs	1,225,566	872,886
Int. & w/o fin. exp.	1,600,285	1,865,320
Inc. tax res.	3,000,000	1,832,000
Net profit	3,636,492	3,250,448
Less: Pref. divds.	450,000	450,000
Com. divds.	2,063,730	1,783,656
Surplus for year	1,122,762	1,014,792
Note —Co. is claiming for tax purposes, capital cost allowances in excess of depreciation charged in accts. Total tax deferred for future years amtd. to $4,800,000 at Dec. 31, 1959.		
Times Fixed Charges Earned:		
Before deprec.	10.05	8.43
After deprec.	5.91	4.58
Earnings per Share and Dividend Record:		
Preferred	$45.46	$40.63
Paid (8%)	8.00	8.00
Paid (5%)	5.00	5.00
Paid (4¼)	4.00	4.00
Common	3.23	3.10
Paid	0.80	0.80
Shares o/s as at Dec. 31:		
8% Pref., $100 par	20,000	20,000
5% Pref., $100 par	50,000	50,000
4% Pref., $100 par	10,000	10,000
Common, n.p.v.	2,591,329	2,544,189

CONDENSED CONS. BALANCE SHEET

As at Dec. 31:	1959	1958
Cash & govt. secs.	$1,871,312	$4,411,508
Accts. rec. less res.	14,660,169	13,610,627
Inventories	19,627,697	19,275,906
Total curr. assets	36,159,178	37,298,041
Mkt. secs.*	2,648,766	2,648,766
Other invest.	1,278,125	1,106,860
Misc. assets	6,854,723	7,577,140
Fixed assets▲	73,563,281	69,068,006
Total assets	122,484,078	117,798,753
Accts., etc., pay.	12,659,936	9,943,451
Debent. pay.	1,700,000	1,700,000
Taxes pay.	1,980,914	787,081
Total curr. liab.	16,340,850	12,430,532
Funded debt	35,386,000	37,778,500
Def. income tax	4,800,000	4,300,000
Mortgage pay.	2,374,363	1,995,298
Deferred inc.	1,176,586	1,259,894
Capital stock	47,954,366	47,105,378
Surplus	14,451,913	12,929,151
▲After deprec. of	41,047,983	35,156,237
*Mkt. value	7,400,000	6,800,000
Working capital	19,818,328	24,867,509

A WORD TO CANADIAN BUSINESS MEN

Are you thinking of opening up a branch business in Europe? Are you interested in European products, processes, or know-how? If so, please consult me. I can guide and advise you. I am a Canadian Professional Engineer of wide experience, registered in Ontario, resident in Switzerland in the heart of Europe, and am familiar with European industry.

D. HEPBURN, P.Eng.
26 Zwingerstrasse,
Basel, Switzerland

Borden Markets Instant Potatoes

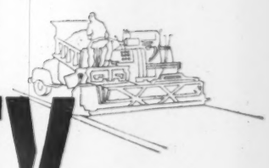
A new line of instant whipped potatoes is being introduced across Canada by **Borden Co.,** Toronto.

The new product, which is imported from the U. S., is being well received by food retailers, a Borden official told FP.

Last year, **Salada-Shirriff-Horsey** completed a plant at Alliston, Ont., to produce instant mashed potato flakes (FP, Oct. 3, 1959).

PLATE AND SHEET METALWORKING MACHINERY
Including
MECHANICAL PRESSES • FOOT & POWER SHEARS • BENDING BRAKES
BENDING ROLLS • BAND SAWS • ROLL FORMERS • TINSMITH TOOLS
GREY IRON CASTINGS • WOOD & ALUMINUM PATTERNS
BROWN BOGGS
FOUNDRY & MACHINE CO., LTD.
HAMILTON, CANADA

industry



FINDS PROFITABLE NEW WAYS TO COMBAT ABRASION

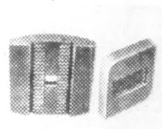
There are 30 grades of Deloro Alloys, (Cobalt and Nickle Base), to solve your wear problems, whenever caused by corrosion, abrasion, erosion, or high temperature.

TAMPER BARS for asphalt spreading, produced from Deloro Alloys, give you mile after mile of perfect road finishes . . . defiance of abrasion and corrosion for up to 3 years continuous service.

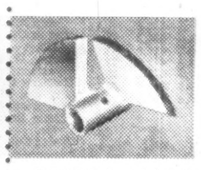
Deloro Alloy Wear Parts, for your asphalt spreaders and mixers, drastically reduce your maintenance costs . . . another example of over 600 components, proved in a large range of industries, that can be supplied to you finished and ready for installation.

Wherever you have metal that wears, send drawings or samples for quotation to:

DELORO STELLITE
BELLEVILLE ONTARIO CANADA

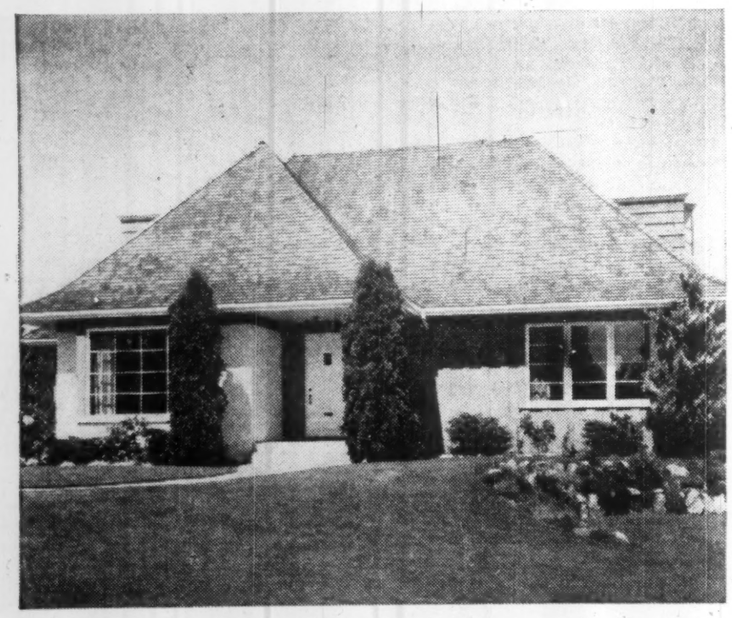


DELORO ALLOY PADDLE TIPS produce from 3 to 5 times longer than manganese steel without replacement.

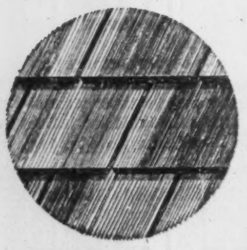


DELORO ALLOY SPREADER SCREWS at prices comparable to steel, slash spreader maintenance . . . keep equipment on the road . . . producing.

no Question about Quality: the roof is
RED CEDAR SHINGLES!



No other roofing material offers the natural distinction of Red Cedar Shingles or Handsplit Shakes. Their deep-shadowed texture enhances any home style — and Red Cedar gains warmth and character with every passing year. For true economy, too, Red Cedar Shingles and Shakes are unmatched by other roofing materials. Inherent resistance to time, wind and weather means years of maintenance-free protection — years of recognized resale value. Little wonder today's better-built homes are roofed with Red Cedar. Red Cedar quality is outstanding — in the way it looks — and the way it lasts!



FOR UNQUESTIONED QUALITY WHEN YOU BUY, BUILD OR SELL — INSIST ON:

Certigrade Red Cedar Shingles for roofs

Certigroove Machine-Grooved Shakes for sidewalls

Certisplit Handsplit Shakes — the aristocrat of roofing

for detailed information, contact your architect, contractor or building supply dealer — or write:

RED CEDAR SHINGLE BUREAU
550 Burrard Street, Vancouver 1, B.C.

Perhaps the nicest Avis 'extra' is a little extra <u>care</u>

For safer driving, every Avis car is equipped with automatic windshield washers, Firestone Nylon 500 tires and heavy-duty battery.

This week on business trips, drive an Avis car for the extra safety of automatic windshield washers, rugged nylon cord tires and heavy-duty battery. They're *standard* features of every Avis car. These are just some of the extra Avis features that come free with every car. Confirming out-of-town reservations while you wait, meeting you on time at trains or planes are two other extra measures of courtesy with Avis. Drive safely this week in a safety-equipped Avis car . . . it costs no more, but the extra care is there.

Avis RENT-a-CAR

a little more car . . . *a little more courtesy*

Avis rents all new cars and features Deluxe Pontiacs

The Avis Rent-a-Car System of Canada • "Serving Canadians Round the World"

FOR YOUR SAFETY-EQUIPPED CAR, CALL AVIS NOW!

Price Earnings Ratios

RATIO OF MARKET VALUE TO EARNINGS OF THE 20 STOCKS COMPRISING THE TORONTO STOCK EXCHANGE AND INDUSTRIAL INDEX

EARNINGS PER SHARE	PRICE Mar. 18	RATIO Mar. 18	WEEK PREVIOUS	MONTH AGO
$56.22	$778.50	13.85	14.38	15.33

Average Yields

(COMPILED BY MOSS, LAWSON & CO.)

	Mar. 18 %	MONTH PREVIOUS %	YEAR AGO %
114 Average Stock Yields	4.80	4.73	3.92
6 Banks	3.64	3.63	2.99
18 Preferred and "A" Stocks	5.47	5.41	4.74
64 Common Industrials	4.42	4.38	3.52
26 Mining	5.54	5.35	4.53

Advances and Declines

Week Ended	Toronto Ups	Downs	No Change	Montreal Ups	Downs	No Change
Feb. 12	213	485	179	88	149	132
Feb. 19	224	469	187	59	175	132
Feb. 26	200	482	180	69	169	142
Mar. 4	175	512	174	72	170	122
Mar. 11	281	388	187	51	171	144
Mar. 18	353	313	188	111	80	145

Volume of Stock Sales

	Montreal	Toronto	Calgary	Vancouver	N.Y.S.E.	American
Mar. 21	282,000	1,705,000	32,200	42,280	2,500,000	790,000
Mar. 18	293,000	2,029,000	62,686	81,459	2,620,000	810,000
Mar. 17	342,400	1,425,000	61,174	46,797	2,140,000	750,000
Mar. 16	319,400	1,533,000	65,543	64,536	2,960,000	1,010,000
Mar. 15	277,000	1,660,000	65,570	63,617	2,690,000	810,000

Significant Investors' Index Numbers

No. of Securities	Mach. and equip. 10	Pulp and paper 9	Milling 2	Oils 5	Textiles and clothing 7	Food and allied prod. 13	Beverages 10	Bldg. mater. 14	Total Industrials 72	Banks 7	Total Utilities 13	Total co's 92
*1935 to date:												
High	947.5	1238.1	252.0	285.5	410.5	304.8	724.6	590.5	315.9	299.1	219.8	297.8
Low 1959-60	68.5	51.8	59.7	40.9	77.7	72.4	79.3	68.7	56.1	68.4	64.5	60.6
Monthly Figures:												
Jan.	690.9	1077.2	198.5	216.7	194.9	286.4	566.7	518.6	273.4	327.6	198.9	206.0
Feb.	674.4	1131.8	200.6	215.4	205.0	302.6	678.4	535.3	279.1	335.8	202.0	269.9
Mar.	692.7	1139.8	199.2	209.6	215.7	301.8	686.0	544.7	278.3	345.9	202.6	270.2
April	668.2	1117.4	190.4	204.8	215.9	299.6	662.1	529.8	271.7	357.1	201.3	265.8
May	686.6	1109.8	211.0	200.0	215.4	292.0	670.6	526.6	271.5	370.4	204.3	267.2
June	776.4	1119.6	230.9	189.9	219.8	279.2	677.7	537.1	274.4	379.0	201.6	269.5
July	834.3	1183.7	239.9	192.9	227.5	273.7	702.7	580.1	286.2	387.5	203.0	279.3
Aug.	794.0	1169.2	232.0	193.0	230.1	264.2	702.4	564.6	282.0	373.7	199.8	274.6
Sept.	741.3	1086.0	221.2	176.7	211.4	251.7	656.7	523.0	261.6	347.6	188.9	255.4
Oct	744.9	1090.8	207.5	168.4	205.7	245.1	652.5	514.3	257.4	354.7	187.3	252.5
Nov	706.9	1123.5	209.8	168.4	206.4	232.4	668.3	529.1	259.2	342.5	186.9	252.8
Dec.	744.5	1174.5	208.5	174.8	209.7	231.2	667.5	536.1	269.3	347.2	190.6	261.5
Jan. 1960	741.9	1156.8	204.2	180.2	203.2	224.5	656.0	518.0	267.6	332.8	191.0	259.2
Weekly Figures:												
Feb. 4	724.4	1098.3	202.0	179.0	201.1	221.2	646.7	503.7	262.7	324.2	188.2	254.4
Feb. 11	719.7	1068.6	194.6	175.3	198.6	215.7	638.7	497.7	260.9	320.8	188.0	252.7
Feb. 18	709.0	1073.3	188.1	172.4	193.3	213.6	631.6	481.8	253.9	313.3	185.8	248.0
Feb. 25	690.8	1059.8	191.1	168.5	194.7	214.5	621.3	471.7	252.0	307.0	185.3	244.5
Mar. 3	676.4	1047.5	182.6	165.0	193.9	214.5	610.0	471.0	246.6	305.9	185.1	240.3
Mar. 10	643.7	1028.0	176.6	163.5	190.0	210.2	604.0	453.4	241.1	296.9	183.5	235.3
Mar. 17	663.3	1043.6	184.2	172.7	190.6	213.7	608.3	464.1	249.1	307.5	183.3	242.0

*High and low for year from 1935 to date inclusive are based on weekly figures used by the Dominion Bureau of Statistics.

TORONTO STOCK EXCHANGE INDEX

	20 Indust.	30 Golds	15 B.M.	15 W.O.
Mar. 21	485.25	89.65	158.42	98.82
Mar. 18	487.02	89.28	158.43	100.73
Mar. 17	485.65	89.22	157.42	97.79
Mar. 16	487.60	89.21	157.02	100.05
Mar. 15	485.17	89.27	155.95	99.96
Month Ago	499.65	90.35	163.53	98.21
Year Ago	531.46	89.56	186.05	125.10
1959-60 High	555.65	95.13	192.15	145.22
1959-60 Low	474.52	84.88	152.57	89.98

MONTREAL STOCK EXCHANGE INDEX

	10 Util.	20 Indust.	30 Com.	10 Prprs.	15 Golds
Mar. 21	137.2	282.2	233.9	413.5	78.48
Mar. 18	138.3	281.7	239.9	414.1	78.34
Mar. 17	138.0	281.6	233.8	412.2	77.54
Mar. 16	138.5	282.2	243.3	416.9	78.20
Mar. 15	137.7	281.1	223.3	414.1	78.19
Month Ago	136.9	293.3	241.1	417.8	77.95
Year Ago	157.9	318.2	264.7	475.1	89.03
59-60 High	162.1	334.4	274.4	494.8	92.77
59-60 Low	135.8	277.2	230.5	403.4	74.35

DOW-JONES CLOSING STOCK AVERAGES

	30 Indust.	20 Rails	15 Util.	65 Stocks
Mar. 21	617.00	142.98	87.57	204.03
Mar. 18	616.42	145.44	87.44	204.26
Mar. 17	615.09	145.61	87.42	204.04
Mar. 16	616.73	146.51	87.71	204.76
Mar. 15	612.18	144.94	87.26	203.20
Month Ago	628.45	151.90	85.99	207.87
Year Ago	605.56	160.44	94.12	209.04
1959-60 High	682.62	173.56	94.70	224.35
1959-60 Low	574.46	138.18	85.02	198.00

there are *hundreds of different* shapes and sizes of "SAFETY SEAL" ENVELOPES ... if there isn't one that meets your needs WE'LL DESIGN IT!

NATIONAL PAPER GOODS LIMITED
HAMILTON ONTARIO
Halifax • Montreal • Toronto
Winnipeg • Vancouver

Foreign Exchange Rates

Noon Value in Canada
Week Ended March 22, 1960

	U.S. $	U.K. £
Wed.	—95 1/32	2.66 11/16
Thurs.	—95 1/32	2.66 10/16
Fri.	—95 1/32	2.66 11/16
Mon.	—95 1/32	2.66 11/16
Tues.	—95	2.66 11/16
Ave.	—95 4/160	2.66 54/80

U. S. rate reported by Bank of Canada.
U. K. bid reported by Toronto-Dominion Bank.

Gold Bars Quoted

Rate Reported by Doherty, Roadhouse & Co., Toronto.

Canadian kilo bars of gold approximately 32 oz. each.

March 22, 1960	Bid per oz.	Asked per oz.
Latest week	$33.10	$33.35
Previous week	$33.05	$33.35

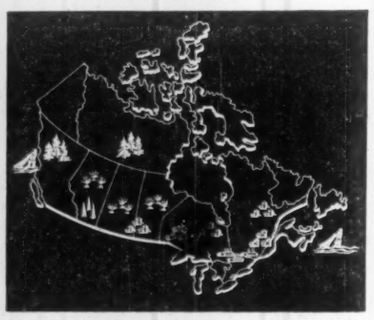
Bond Redemptions

Bond Issues	Rate	Year	Date	Call Pr.
*Trans Mountain Oil Pipe Line Co., 1st Mtge. Bds. Ser. B & C.	4%	'72	Apr. 1	$102.40

* $585,000

FENCO

SERVES CANADA



FENCO provides industry and government with services, from preliminary studies and reports to working drawings and specifications and the supervision of construction. Specialized engineering services are available for transportation, marine structures, mining and metallurgical, pulp and paper and other industrial projects.

FOUNDATION OF CANADA ENGINEERING CORPORATION LIMITED

VANCOUVER TORONTO MONTREAL

Corporation Bonds

Supplied by Investment Dealers' Association of Canada
March 22, 1960

Public Utility Issues:	Int. Rate %	Due	Bid	Ask	Prev. Week Bid
Alg. Cen. H.B.R.	5½	'79	92½	95½	92
Bell Telephone	5	'72	90½	92½	90
Bowater Pr. Co.	3½	'80	74	...	74
Braz. Trac. L&P	4½	'70	79½	83	79½
B. C. Electric	5¼	'88	83½	86	84
Do.	5¼	'77	91½	93½	92
B. C. Telephone	5	'82	86	88	86
Calgary Pwr.	3½	'72	79½	...	79½
Cons. Gas	5	'78	87½	90½	87½
Galineau Pr. D.	3½	'70	80	82	80
Gt. Lakes Pr.	5¼	'77	92	94	91
Maclaren-Quebec Power	3	'69	80	...	80
Mex. Lt. & Pr.	5	'75	77	...	77
Nat. Lt. & Pwr.	4½	'61	98	99	97
Nor. Que. Pr.	4½	'67	88	...	88
Power Corp.	5¼	'77	91½	...	91½
Que. Nat. Gas	5¼	'85	83	87	83
St. Maur. Pr.	3½	'70	79	81	79
Shaw. W. & Pr.	4½	'76	84½	87½	86
Tr. Can. P.L.	5.85	'87	83	85	83
W'coast T. Deb.	5½	'88	71	75	70
Industrial Issues:					
Abitibi Pr. P.	6½	'77	97½	100½	97½
Do.	4	'74	81½	...	81½
Acadia-Atlantic Sugar	4	'74	77½	...	77½
Alum. of Can.	4½	'73	85½	88½	85½
Bathurst P. & P.	5½	'73	90½	93½	90½
Bicroft Uran.	5	'62	95½	97½	95½
Can. Bread	4½	'67	86½	89½	86½
Can. Cement	5¼	'76	89½	92½	89½
Can. Steamship	4	'66	85½	...	85½
Cdn. Brew	4½	'81	82½	...	82½
Cdn. Canners	3½	'70	80½	83½	80½
Cdn. Celanese	3	'62	91½	...	91½
Cdn. Chem. Co.	5½	'71	88½	91½	88½
Cdn. Industries (1954) Ltd.	3½	'74	77½	...	77½
Cdn. Dyno	6	'63	92½	94½	93½
Cdn. Oil	4	'76	77½	80½	77½
CPR	3½	'72	79½	...	79½
Do.	3½	'66	85	87	85
Cdn. Met.	5½	'63	84½	87½	82
Cockshutt F. Eq.	4½	'65	86½	89½	86½
Cons. Denison	5	'62	96	98½	96½
Dom. Fdrs. & S.	4½	'69	86½	89½	86½
Dom. Stores	5½	'76	91½	94½	90½
Dryden Paper	4½	'74	82½	85½	82½
T. Eaton Acc.	4½	'74	83½	86½	82½
T. Eaton Realty	5½	'76	89½	92½	88½
E. B. Eddy	4	'74	74½	...	74½
Elk Falls	5	'75	80½	...	80½
Gen. M. Accept.	4½	'69	87½	90½	86½
Gt. Lakes Pap.	5	'76	88½	91½	88½
Gunnar Mines	5	'60	98	...	98
H. Bay O&G	4	'75	75½	...	74½
Husky Oil	5	'69	79½	...	79½
Imp. Tobacco	4	'70	78½	81½	78½
Imp. Oil	3	'69	79½	82	78½
Indust. Accept.	6	'77	93	96	93
Loblaw Groc.	6	'77	96½	99½	95½
Lorado Uran.	6	'62	88½	...	84
Maple L.M.	3½	'63	90	92	90
Massey-Ferg.	4½	'76	79½	83½	79½
Milliken Lake	6	'62	97	97½	96½
North Cdn Oil	5	'75	67½	73½	67½
North Span	5½	'63	89½	90½	89½
North Star	4½	'78	79½	82½	79½
Ont. Jockey Cl.	5½	'72	82½	85½	82½
Phillips Elect.	5	'73	87	...	87½
Price Bros.	3½	'66	85	87	85
Pronto Uran.	5	'60	99	101	99
Regent Refining	4½	'75	79½	...	79½
Rio Tinto	5	'63	96	96½	96½
St. Law. Corp.	5	'72	90	93	90
Sal.-Shirriff-H.	6	'77	94½	97½	94½
Simpsons Ltd.	4½	'73	87½	90½	87½
Steel of Can.	2¼	'67	81½	84½	81½
Traders Fin.	4½	'71	85½	...	85½
Union Accept.	5½	'75	87½	90½	89
Un. Grain Gr.	3½	'70	80½	84½	80½
West Cdn. O&G*	5½	'73	90	...	90½
Weston, Geo.	4½	'71	86½	89	86½

‡Ex. wts
*Cum. wts

CONVERTIBLE ISSUES

A.	% P. &	4½	'66	92½	95½	93½
At.			'67	101	107	100
Braz.	L&P	4½	'71	74½	77½	74½
B. C. El.		6	'84	102	104	101
CPR		4	'69	83½	85	83
Cdn. Petrofina		4	'72	80½	...	77½
Cockshutt F. Eq.		5	'68	87½	...	87½
Home Oil		5½	'71	90½	93½	88½
Do.			'75	96½	98½	92½
Shaw. W. & P.		5½	'72	102½	105½	102½
Westcoast T.		5½	'88	74	78	78
Loblaw Groc.		4½	'76	106½	111½	104
Phillips Elect.		5½	'70	87½	91½	87½
Silverwood Dair.		5½	'72	92	...	92½
Trans Emp. Oil		5	'66	93	...	93
Do.			'67	93½	...	93½
Triad Oils		4½	'71	78½	83	75½

Unlisted Industrials

(Compiled by McDonnell, Adams & Co., Ltd., Toronto)
Mar. 21, 1960

	Bid	Asked
Alexander Bldg.	16.00	....
Anglo Canadian Tel. A	29.00	30.25
Border Chemical	3.75	4.25
Brinton Pete Carpet	45.00	....
British America Assce.	100.00	105.00
British Mtge. & Trust	250.00	....
British Newfoundland	2.75	3.25
Cdn. Admiral Corp.	14.00	15.50
Can. Canners B	10.75	....
Cdn. Corp. Management	7.85	8.50
Can. & Foreign Sec.'s	8.25	....
Cdn. General Insce.	500.00	600.00
Capital Wire Cloth	20.50	....
Cawthra Apts	56.00	....
Commercial Life 20% paid	32.50	....
Commercial Finance	60.00	....
Concourse Bldg.	150.00	160.00
Copp Clark 6% pfd.	80.00	85.00
Crown Life Insce.	163.00	166.00
Debentures & Secs. pfd.	80.00	....
Dollar Land Corp. Units ($100. 7% deb. & 6 common)	162.00	166.00
Dom. Can. Gen. Insce.	41.00	50.00
Dom. Linseed Oil units	3.00	4.00
Dominion Life Assce.	165.00	200.00
Eastern Trust	26.00	28.00
Essex Packers pfd.	32.00	....
Do. com.	2.35	....
Excelsior Life	170.00	200.00
Fruehauf Trailer warr.	2.00	2.75
Goderich Elevator	18.50	19.25
Granite Club	13.75	14.50
Gt. Britain Can. Inv. pfd.	83.00	87.00
Do. com	....	22.50
Great-West Life	315.00	325.00
Guar. Co. N. A. Fully Paid	240.00	250.00
Do. 20% Paid	60.00	75.00
Halifax Insurance	19.00	....
Halifax & Peel Trust	12.75	13.50
Hart Bty. (1957) Ltd. units	3.00	4.00
Hees George $6 pfd.	....	25.00
Hudson's Bay Co.	25.50	26.25
Humberstone Shoe	7.00	....
Industrial Mtge. & Trust	107.00	....
Ingersoll Mach. 4% pfd.	80.00	....
Do. B	....	4.50
Jenkins Bros.	58.00	62.00
London Life Insce.	....	172.00
Lord Simcoe Hotel A	....	1.00
McCarthy Milling A	3.75	....
*Manufacturers Life	249.00	....
†Do.	242.00	....
‡Do.	239.00	....
Maritime Life	122.00	....
Meadowvale Development	3.20	3.45
Mindustrial Corp.	1.45	1.60
Monarch Life	47.00	57.00
Mutual Finance Corp. pfd.	75	....
National Life Assoc. new	60.00	65.00
Pacific Western Airlines	1.70	1.90
Park Lawn Cemetery	2.25	2.75
Pembroke Electric Light	87.00	....
Phillips Electrical	6.00	6.50
Prairie Royalty Trust	1.75	....
Prudential Trust	21.00	....
S.K.D. Mfg. 6% pfd.	9.50	10.00
Scott Misener S.S.	14.50	....
Sovereign Life 25% Paid	200.00	210.00
Steelman Gas	2.00	2.50
Standard Fuel pfd.	34.00	36.00
Teleflex Ltd.	16.50	18.00
Thompson Paper pfd.	44.00	47.00
Tor. & London Invs.	2.20	2.70
Tor. Medical Arts Bldg.	57.00	63.00
Trans-Canada Freezers warr's	1.00	....
Triarch Corp	112.00	115.00
Universal Cooler 6% pfd.	53.00	....
Do. B pfd.	2.00	3.00
Velok Units	....	35.00
Waterloo Mfg.	8.50	....
Waterloo Trust	46.00	47.00
Westcoast Transmission	14.50	15.00
Western Assurance	79.00	83.00
Western Life 25% Paid	98.00	....

*Original pledged stock.
†Later pledged.
‡Unpledged.

By Rippen & Company Inc., Montreal

Consolidated Theatres A	7.00	9.00
Do. B	6.00	....
Dupuis Freres pf	15.00	....
Guar. Co. of N. A.	240.00	270.00
Gt. Britain & Canada	20.00	23.00
Hart Battery Units	3.50	....
Hudson's Bay Co. new	25.25	26.00
Maritime Tel. & Tel.	16.50	17.25
Mtl., City & Dist. Svgs. Bk.	55.00	58.00
New Brunswick Tel.	11.50	12.25
Ont. & Que. R. 5% Cap. Stk.	95.00	100.00
Prudential Trust Co.	18.00	....
Westcoast Transmission	14.25	14.75

Unlisted Mines and Oils

(Compiled From Quotations by G. E. Leslie & Co., Montreal)
March 21, 1960

Stock	Bid	Of'r	Stock	Bid	Of'r
Alsab	36	41	Lk. Chib	—	15
Aconic	25	30	Main Oka	50	60
Amal Mg	—	50	Martin Bird	4	6
Aconic vtc	20	25	Matt. Lk	5	5½
Arnora	—	2	Matt. Ex	11	16
Assce. Devp	6	8	Monor	34	42
Atlas Chib	2	5	Miller Cop	6	8
Bald Mtn	3	5	Natl Mal	10	13
Bros'n Ch	10	15	Nipiron	10	14
Big Nell	15	25	North Matt	10	15
Bracemac	8	11	Oklend	3	6
Cdn Jav	8½	9	Pascalis	15	20
Cap Oil	—	30	Quedon	—	5
Cns Vauze	75	85	Quejo	3	6
Dauphin	10	15	Rand Mal	5	7
Franksin	—	30	Seuc Dev	130	170
Ghislau	60	75	Sheraton	—	45
Gibson	5	10	St Judet	2	5
Glencona	½	1	St Helen	—	25
Hull Iron	140	160	Scott Ch	2	4
Imp Min	4	8	Starlight	2	4
Independ	7	10	Tarpoint	1	3
Kenmac	2	4	Valmont	—	11
Lk Sup Irn	15	25	Wm Leys	2	6
Lun Echo	23	28	Yng Dave	15	20

Market Comment

What stocks and bonds are doing and what prominent observers say

Whether the market has been able to establish a firm base above the 500 level (D-J industrials) from which to negotiate a worthwhile rally into the 550-560 range — as some analysts are now claiming—depends primarily on business prospects provided in spring buying habits.

The series of huge capital expenditure programs announced recently by leaders in U. S. steel and chemical industries — many of them to stretch over a two-year period — will go a long way in sustaining the current high industrial tempo in that country. It is noteworthy that a steadily increasing proportion of these industrial projects are to improve operating efficiencies.

On the Canadian market gas producers and pipelines continue to account for bulk of the day-to-day trading volume. The long-awaited Ottawa announcement on gas export could come over the next few days.

* * *

RICHARD REDLER; Gairdner & Co. (Toronto)

Economic expansion was restrained last year by the earlier-than-usual tightening and rising cost of money, and it was interrupted by prolonged strikes in strategic U. S. industries. To this was added a highly unseasonable late winter over wide parts of the country.

As a result of these retarding factors one can expect the current period of expansion to be stretched out farther than could have been expected otherwise — probably well into 1961.

Stock prices have retreated some 13% from their mid-1959 highs while government bonds improved appreciably from their September lows. Where mid-term Canadas yielded 6¼% last September they are yielding less than 5½% today.

On the other hand, the average yield of 50 representative common stocks which had narrowed to 3.72% last July, has risen to 4.46% under the coupled impact of falling prices and rising dividends. Taking into consideration the 20% tax credit, many good stocks appear again attractive by a comparison of net return.

Another comparison is intriguing: while they were extremely expensive in 1956-57, Canadian stocks are cheap today by international standards. Stock yields are higher in Canada than they have been since May 1958.

The boom on the European stock markets meanwhile has dropped yields there to record lows. Representative stock indexes showed recently an average return to 3.3% in Germany and 3.6% in the U.K. as against yields of about 6% prevailing in both markets at the beginning of 1959.

International portfolio investors will sooner or later see fit to take some profits in Europe for reinvestment in our equity markets.

The stocks in which Canadian and foreign investors may find opportunities particularly rewarding in the months ahead, are those of our leading export industries. Distinct and perhaps extraordinary earnings gains will be achieved in 1960-61 by companies shipping forest products, base metals, asbestos and iron ore to foreign markets.

Natural gas will be admitted soon to the ranks of our major exporters and, needless to say, some sharp earnings gains must lie ahead for a number of stocks in the gas and oil group and related suppliers of pipe and equipment.

* * *

JOHN A. BOYD, Jr.; Andras, Hatch & McCarthy (Toronto)

It is unlikely that the very sharp and quite severe drop in the stock market since the beginning of the year is a forecast by the market of the recession which has been widely predicted for late 1960 or early 1961. More likely it is an adjustment caused by the initial enthusiastic predictions for business during the first half of 1960 which are now being painfully revised downward.

Also investors may now be less willing to pay as much for growth and to require a higher return on their investment than in the recent past.

Probably the downward revision of business prospects has gone too far and by early summer it should be apparent that the economy will be operating at a high level during the remainder of 1960 and well into 1961.

In view of the sharp decline that has taken place in many attractive stocks, and as the outlook for business is favorable as far ahead as can be seen, stocks on balance appear to be in a buying range. Without going into detail, suffice it to say that bank stocks at current levels are one of the most attractive groups for short to medium term capital appreciation.

* * *

ARTHUR A. McLAUGHLIN; Baker, Weeks & Co. (Montreal)

Retracement by the leading industrial stock averages of approximately one quarter of their January 5-March 8 declines has contrasted rather sharply with the action of the market in 1929, 1937 and 1946 when similar primary downtrend confirmations, by Dow theory definition, were followed by accelerated selling pressure and further general losses of important magnitude.

Obviously, the vast majority of share owners, including professional investment managers as well as private individuals, are unwilling yet to conclude that in the present instance the level of the stock market is vulnerable enough to justify broad-scale liquidation.

There are a number of reasons, both technical and fundamental, why it may be premature to differ with this majority view. The decline to date is largely explainable in terms of liquidation of inflationary psychology within the stock market itself, and as such, it does not foreshadow necessarily a cyclical business downturn in the traditional manner.

Nobody can say precisely to what level stocks must drop in order to exclude the premium which investors hitherto have been willing to pay for a hedge against inflation. However, unless there is going to be a cyclical business recession, most investors find it difficult to imagine a protracted downtrend in stock prices.

Thus, admitting that anticipation of inflation is much less prevalent now than it was up to about mid-1959, the really important question is whether this prominent factor in the postwar boom can be minimized materially in the economy at large without hastening a downturn in the business cycle. On the record to date, it seems too early to assume that it cannot.

The main bulwarks against an early cyclical downswing in the economy are:

1) The solid foundation of consumers' ability and willingness to spend,

2) The fact that inventory accumulation is peaking earlier than expected,

3) The substantial uptrend in projected capital expenditures, and

4) The perceptible relaxation of money tightness.

In the light of underlying conditions in these areas, there does not appear to be cause for alarm in February's one-point drop from January's artificially high peak in the federal reserve index of U.S. industrial production or in the prospect of some further near-term decrease in activity, as output, particularly in steel, is adjusted toward the level of current demand.

Company Meetings

Date	Company	Place
Mar. 24	De Havilland Aircraft	Downsview, Ont.
Mar. 24	Gt. Britain & Can. Inv. Corp.	Montreal
Mar. 24	Newlund Mines	Toronto
Mar. 25	Cinzano Ltd.	Montreal
Mar. 25	Moore Corp.	Toronto
Mar. 25	Palliser Pet.	Calgary
Mar. 25	So. Can. Pwr. Co.	Montreal
Mar. 28	Bathurst Pwr. & Pap.	Montreal
Mar. 28	Corporate Investors Ltd.	Toronto
Mar. 29	Canadian Salt Co.	Montreal
Mar. 29	F. W. Horner Ltd.	Mt. Royal, P.Q.
Mar. 30	Canada North-West Land Co.	Toronto
Mar. 30	Cdn. Oils Cos.	Toronto
Mar. 30	Sudbury Contact Mines	Toronto
Mar. 31	Algoma Cent. & Hudson Bay Rlwy.	Sault Ste. Marie
Mar. 31	Auto Electric Ser.	Toronto
Mar. 31	Feralco Industries	Montreal
Mar. 31	Killembe Copper	Toronto
Mar. 31	National Pet. Corp.	Calgary
Apr. 1	Cdn. Home Ins.	Montreal
Apr. 1	G. Tamblyn Ltd.	Willowdale, Ont.
Apr. 4	Cdn. Marconi Co.	Montreal
Apr. 4	Ford Motor Co.	Toronto
Apr. 4	Gt. Winnipeg Gas Co.	Winnipeg
Apr. 4	W. H. Schwartz & Sons Ltd.	Halifax
Apr. 5	Hudson's Bay O. & G. Co.	Calgary
Apr. 5	Latonia Inv. Tr.	Paris, France
Apr. 6	Caledonian-Can. Ins. Co.	Montreal
Apr. 6	Imperial Tobacco Co.	Montreal
Apr. 6	Wood Mfg. Co. Ltd.	Montreal
Apr. 7	Belding Corticelli Ltd.	Montreal
Apr. 7	Cons. Diversified Sec. Ltd.	Montreal
Apr. 7	Price Bros. & Co.	Quebec City
Apr. 8	Cdn. Industries Ltd.	Montreal
Apr. 11	Gt. Plains Dev. Co.	Montreal
Apr. 12	Anglo-Cdn. Tel.	Montreal
Apr. 12	Cdn. Home Assurance	Montreal
Apr. 12	Cdn. Invest. Fd.	Montreal
Apr. 12	Cdn. Prov. Ins.	Toronto
Apr. 12	Dom. Atlantic Rlwy.	Montreal
Apr. 12	Hallnor Mines Ltd.	Toronto
Apr. 12	Lake Erie & Nor. Rlwy.	Montreal
Apr. 13	Waite-Amulet M.	Toronto
Apr. 13	Westeel Prod. Ltd.	Winnipeg
Apr. 14	Abitibi Pwr. & Pap.	Toronto
Apr. 14	Aro Equipment Corp.	Bryan, O.
Apr. 18	Siscoe Mines	Montreal
Apr. 19	Chrysler Corp.	Wayne Co., Mich.
Apr. 19	Minn. & Ont. Paper	Minneapolis, Minn.
Apr. 19	Robt. Simpson Co.	Toronto
Apr. 20	Asbestos Corp.	Montreal
Apr. 20	Cdn. Celanese Ltd.	Montreal
Apr. 21	National Lead Co.	Savreville, N.J.
Apr. 22	Algoma Stl. Corp. Ltd.	Sault Ste. Marie
Apr. 22	Br. Amer. Bk. Note	Ottawa
Apr. 22	Granby Mining	Vancouver
Apr. 22	Montreal Locomotive Wks.	Montreal
Apr. 25	Geco Mines	Toronto
Apr. 25	Torbrit Silver M.	Toronto
Apr. 25	United Corp. Ltd.	Montreal
Apr. 26	Continental Can Co.	New York, N.Y.
Apr. 27	Gen. Electric Co.	Chicago
Apr. 27	Int. Nickel Co.	Toronto
Apr. 28	Home Oil Co.	Calgary
Apr. 28	Mining Corp.	Toronto
Apr. 28	Normetal Mining Corp.	Toronto
Apr. 28	Quemont Min. Corp. Ltd.	Toronto
Apr. 28

DIVIDEND NOTICE

dividend notice

Notice is hereby given that a Dividend at the rate of Forty-seven and One-half Cents per fully paid share in the Capital Stock of the Bank has been declared for the quarter ending April 30th, 1960, payable at the Head Office and Branches of the Bank on and after May 2nd, 1960, to shareholders of record at the close of business on March 31st, 1960.

By Order of the Board
Toronto, Ontario
March 10th, 1960

A. T. LAMBERT,
General Manager

THE TORONTO-DOMINION BANK
THE BANK THAT LOOKS AHEAD
K-3268

THE CANADIAN BANK OF COMMERCE

Dividend No. 293

NOTICE is hereby given that a dividend at the rate of forty cents per fully-paid share on the outstanding Capital Stock of this Bank has been declared for the quarter ending April 30, 1960, payable at the Bank and its branches on May 2, 1960, to shareholders of record at the close of business on March 31, 1960.

By Order of the Board
J. P. R. Wadsworth,
General Manager

Toronto, March 18, 1960

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ATLAS STEELS LIMITED

Notice is hereby given that a dividend of twenty-five cents (25c) per share on the common No Par Value Shares of the Company has been declared and the same will be payable on the second day of May, 1960, to shareholders of record at the close of business on the fourth day of April, 1960, by Order of the Board.

A. G. HOWEY,
Secretary.

Dated at Crowland, Ontario,
March 15, 1960.

INLAND NATURAL GAS CO. LTD.

PREFERRED DIVIDEND NO. 14

NOTICE is hereby given that the Board of Directors of the Company has declared a dividend of Twenty-Five Cents (25c) per share on the 5% Cumulative Redeemable Preference Shares of the Company for the three months' period ending April 15th, 1960, payable April 15th, 1960, to Shareholders of Record at the close of business on Thursday, March 31st, 1960.

By Order of the Board.

D. R. MacPHAIL,
Secretary.

Vancouver, B.C.
March 8th 1960.

QUEBEC POWER COMPANY

DIVIDEND NO. 142

NOTICE IS HEREBY GIVEN that a dividend of forty cents (40c) per share has been declared on the no par value common shares of the Company for the quarter ending March 31, 1960, payable May 25, 1960 to shareholders of record April 15, 1960.

By Order of the Board,

R. R. MERIFIELD,
Secretary.

Montreal, March 16, 1960.

125th consecutive quarterly

GUARANTY TRUST
Company of Canada

DIVIDEND
20¢ a share —
rate of 8% per annum payable April 14, 1960 to shareholders of record March 31, 1960

A. B. RAMSAY
General Manager

Fawcett

ENAMEL & HEATING PRODUCTS LIMITED

DIVIDEND NOTICE

On March 15, 1960, the Directors of Enamel & Heating Products Limited, Sackville, New Brunswick, declared a Quarterly Dividend of 12½c per share on the Class "A" Capital Stock of the Company, payable April 30, 1960 to shareholders as of record March 31, 1960.

A. R. FRENCH,
Secretary

ZELLER'S LIMITED

DIVIDEND NOTICE

NOTICE is hereby given that the following dividends have been declared on the outstanding capital stock of the Company for the quarter ending April 30, 1960, payable May 2, 1960, to Shareholders of record on April 1, 1960.

4½% PREFERRED SHARES

The regular quarterly dividend of fifty-six and one-quarter cents (56¼c) per share on the 4½% Cumulative Redeemable Preferred Shares.

COMMON SHARES

A quarterly dividend of thirty-five cents (35c) per share on the Common, No Par Value, Shares.

By Order of the Board,
EDMUND G. COLLARD,
Secretary.

MONTREAL, P.Q.
March 17, 1960.

Penmans

DIVIDEND NOTICE

NOTICE is hereby given that the following Dividends have been declared for the quarter ending on the 30th day of April, 1960.

On the Preferred Stock, one and one-half per cent (1½%) payable on the 2nd day of May to Shareholders of record of the 1st day of April, 1960.

On the Common Stock, forty-five cents (45c) per share, payable on the 16th day of May to Shareholders of record of the 15th day of April, 1960.

By Order of the Board.

L. P. ROBERTON,
Secretary-Treasurer.

MONTREAL.
March 15, 1960.

CANADIAN BRONZE COMPANY LIMITED

Canadian Bronze Company, Limited

DIVIDEND NOTICE

The Quarterly Dividend of 1¼% on the PREFERENCE STOCK of Canadian Bronze Company, Limited, has been declared payable the 1st day of May, 1960 to Shareholders of record as of the 11th day of April, 1960.

Also a Dividend of Thirty-seven and one-half (37½c) Cents per Share, has been declared for the three months ending April 30th, 1960, on the outstanding COMMON STOCK of Canadian Bronze Company, Limited. Payable the 1st day of May, 1960, to Shareholders of record as of the 11th day of April, 1960.

By Order of the Board.

W. C. PAQUETTE,
Secretary.

Montreal, P.Q.
March 16, 1960.

NOTICE

ALBERTA PACIFIC CONSOLIDATED OILS LIMITED

(Non-Personal Liability)

Notice of Annual General Meeting of Shareholders

NOTICE IS HEREBY GIVEN that the Annual General Meeting of Alberta Pacific Consolidated Oils Limited (Non-Personal Liability) will be held at the Corral Room, Palliser Hotel, in the City of Calgary, in the Province of Alberta, Canada, on Thursday, the 28th day of April, A. D. 1960 at the hour of 11:00 o'clock in the forenoon for the following purposes:

(a) receiving and approving the report of the Directors and the financial statements of the year ending December 31st, A. D. 1959 and the report of the auditors thereon;
(b) election of Directors;
(c) appointing the auditors for the ensuing year, authorizing the Directors to fix the remuneration of the auditors;
(d) considering and approving certain suggested changes in the Company's Articles of Association;
(e) transacting such other business as may be properly brought before the meeting.

The Board of Directors have fixed the close of business on the 1st day of April, A. D. 1960 as the record date for the determination of shareholders entitled to notice of and to vote at the meeting or any adjournment thereof and the books of the Company shall be and remain closed from the aforesaid date up to and including the 28th day of April, A. D. 1960

DATED at the City of Calgary, in the Province of Alberta, this 17th day of March, A. D. 1960.

By Order of the Board,
F. E. Fitzer,
Secretary-Treasurer.

Market Bid and Ask Quotations

Montreal & Toronto

Mar. 22, 1960

Stock	Bid	Ask	Stock	Bid	Ask	Stock	Bid	Ask	Stock	Bid	Ask
xAbacus	33	38	C Oil	21¼	21½	xGt Mas	26	26½	xMill C	23	24
Abitibi	35½	36	Do p	130	140	xGiant	11¼	11½	xMillik	96	99
Do p	21½	22	Do 4	72½	75	xGlacier	24	25	xMitt B	260	270
Ac-Atl	9¼	9½	Do 5	90	102	xGlenn	5	7	xMinda	6	7
Do A	18½	19	CPR	23⅞	23¾	xGldale	16	18	Min Cp	11¼	11½
Admil	18¼	18½	xC Thor	4½	5	xGF Mng	21	22	xMin Or	6	7
xAd-oc	330	340	C Tire	176	184½	xGidry	18½	22	Mtchll Rob	11¼	12
Ag-S	18¾	18¾	C Ut p	80	85	Gdy	147	150	Do cl B	6	..
xAgnico	65	67	Do 4½	70	..	Do p	40¼	43	M C A	13¾	14
xAjax	62	66	C Vick	..	14¾	G Mac A	6¼	6¾	Mols A	21¾	22½
xAkaitc	40	42	C Wal A	27	28	Do B	6¼	7	Do B	21¼	21½
xAlba	5	6	Do B	29½	33	Gftn A	16¾	16¾	Do p	40	40¾
Admil	18¼	18¾	CWN p	14	15	xGranby	550	..	Moly	..	43½
xAd-oc	330	340	C West	40	42½	Gr Toy	42	52	M Kn	8½	8¾
Ag-S	18¾	18¾	C Ut p	80	85	xGrdroy	12¾	14	Do p	75	83
xAgnico	65	67	Do 4½	70	..	xGduc	100	107	M Inv	45	50
xAjax	62	66	C Vick	..	14¾	GL P	35½	36½	xMoneta	67	68
xAkaitc	40	42	C Wal A	27	28	GL Pow	22	24	M Loco	16¼	17
xAlba	5	6	Do B	29½	33	Do p	22	23	Mtl Tr	42½	44
xAlta D	240	250	CWN p	14	15	Do w	325	650	Moore	38½	38¾
xDo vt	185	190	Do 5½	18¾	19	GN G	5¾	5¾	Do A	1732	..
xDo w	80	83	C West	40	42½	Do p	35½	..	Do B	2628	..
Alt Gas	24¼	24¾	xC Will	65	106	Do 280	40	40	Morgan	..	29
xAP Con	50	58	xCandor	14	15	xDo w	160	175	Do 4.75 p	87	..
xAjax	62	66	C Vick	..	14¾	xDo Bw	170	185	Mt Wt	50	51
xAkaitc	40	42	C Wal A	27	28	Gr Plns	10¼	10¾	xMulti	38½	41
xAlba	5	6	Do B	29½	33	xGW C A	450	475	xMultin	37	38
xAlta D	240	250	CWN p	14	15	xDo B	325	350	xNama	14½	15
xDo vt	185	190	Do 5½	18¾	19	G Wpg G	9¼	9¾	**National**		
xDo w	80	83	C West	40	42½	Do vt	9¼	9¾	Nat Dr	14	14½
Alt Gas	24¼	24¾	xC Will	65	106	xDo 36w	375	385	Do p	14	15
xAP Con	50	58	xCandor	14	15	xDo 38w	385	430	xN Exp	5	5¼
Algom	12¼	12¾	xCanEr	86	88	Gr W	420	475	N Groc	20	25
Alg C	17	17¾	xC Met	8	9	xGnring	380	400	Do p	25¾	26¼
Do p	53½	55	xCanpt	6	8	xGryhk	2¼	3	xHos B	310	325
Do w	510	550	xCarib	92	95	Greyhnd	10¼	11	N Lead	92¼	93¼
Algma	33	33½	Cass	12¼	12¾	xGridoil	150	225	xN Pet	225	250
Algon	7¼	8	xCayzr	35	45	Guar T	26	27	N St C	11¼	13
Do p	18	19	xC Del	485	500	xGuelph	8¼	9	Nat Tr	49½	49¾
xAll R	22¼	25	xC Pat	110	115	xGulf L	6	6¼	xNealon	5	5¼
xAlmin	250	275	xC Porc	11	12	Gunn	825	830	xNelson	10	11¼
Alumi	29	29¼	xChar O	102	115	xDo w	25½	27	Neon	15	15¾
Ao 1 p	20	20½	Chart Tr	60½	62	Gurney	9¼	10	xNes L	10	12
Do 2 p	41	41½	C-Gai	22¼	24	Do p	20¾	..	**New**		
xA-Lar	19	20	xChesk	4	5	xGwilm	5½	6	xN Alg	5	6
xA Rare	8	10	xChest	31½	32	Hahn	11¾	14¾	xN Ath	26	29
xAm L	9	10	xChib J	35	36	Do 1 p	15	16	xN Bid	8½	9
xA Nep	56	58	xChib-K	10	11	xHalint	196	200	xN Con	34	36
xAmur	200	250	xChi M	55	60	H Cot	16	16¾	xN Conc	5¼	6
xAnac	52	58	xChim	38	39	H Carp	11¾	11¾	xN Cont	24	30
Analog	5¾	6	xChrm	475	480	Hardee	9¼	9½	xN Dairy	15½	17
xDo w	300	315	Chrys	49	..	Do p	90	96	xN Dist	13¾	14
xAnch	11	12	xC Bar	425	6¼	xHd Rck	14	15	xN Gvue	5¾	6¾
Ang Am	610	635	xDo A	51	54	xHar-M	6¼	9	xN Harri	10	11
Ang-Cdn	..	..	xCoch W	300	310	Hartz A	12¼	13½	xN Hos	67	69
Tel	47½	48	Co-Op	17¼	19	xHasaga	8¾	9	xN Jas	6¾	7
A Pip p	..	50	Do A	15	16	xH of-L	8	8¼	xN Kel	9	9½
Ang Hu	12¼	12½	Cshutt	16	16½	xHdwag	23½	25	xN Mand	35	37
xAng R	19	20	xCody-R	10¼	11	xHeath	5	5¾	xN Man	37	38
xAnsi	14	15	Coghlin	4.00	4.00	xHees	42½	52½	xN Myla	32	33
Anthes	35	38	xCoin L	12	13	xHendrs	7¾	..	xNnor	5	6
Do B p	85½	90	Coll	13½	..	Do pf	87½	90	xNRou	5	6
xAre w	4¼	5½	Do p	13¼	18	xHigh-B	150	155	xN Ron	6	6¾
xArea	75	80	xCol Cell	400	415	H D	50	51	xN Sen	4	4½
Argus	27½	27¾	Com E	9	9¾	Hi-T	7¼	8	xN Taku	12	18
Do 240 p	55	71	xCo Met	23	25	xHold A	5¾	6¼	Nia W	11	12
Do 250 p	43¼	44	xCmol	13	..	Do B	250	..	Do B	10¼	10½
xArjon	7¾	8	xCom P	200	250	Hollnge	22¾	24	xNick M	38	40
xAsama	65	67	Conduit	12¼	13	Holt Renf	14¼	15	xN-Rim	45	50
Ash A	10¼	12½	Conf L	134½	155	Ho O A	10¼	10¾	xNipis	102	106
Do B	11¼	12	Do O	160	..	Do B	96½	99½	xNisto	3	4
xAsh T	7¾	8¼	xConia	47	48	Hornde	400	410	xNor-Ac	14	16¾
Do B	92	100	xCniaur	46	49	H smit	42¾	43	xNorbeau	57	60
Do B	9	10	xCKey	19	20	xHoyle	300	320	xNorgold	4	5
xA Arc	39	40	**Consolidated**			Hud B	46	46¼	xNorlar	27	28
Atl A	13	14	xC All	5¼	6	HB O G	12	12½	xNorvalc	300	315
Do 1 p	14	19¾	C Bak	8	9	xH-Pam	9	10	xNorpax	9	9¾
xAti C C	140	145	xC Bell	5¼	6	Hu O A	..	14	xNotsvn	7	8
Atlas	20	23¼	xC B G	8	9	Do B	..	14½	xNorcal	9	10
xAt Yk	7	7¾	xC Call	6	9	Do p	23¼	..	**North**		
xAt-Ruf	10	10¼	xC C	6¼	6¾	Hur Er	51	52½	N Gate	50	52
xAumac	7¼	10	C Den	10½	10¾	xHydra	32	40	xNCO	250	265
xAumaq	11¾	12	xDo w	1¼	2	Imp B	36½	37	xNo Nw	23	24
xAunor	262	269	xC Disc	370	375	I Flo	35	35	xNo-Rim	5	5¼
Aut El	27	27	xC Dra	35	35½	I In A	9	9¼	xNo-Tac	33	34
Aut F A	..	9¼	xC E Cr	42	44	I Liv P	19½	20	Do p	23	25
xDo B	300	330	xC Fers	22	24	Do p	19½	20	xN Cold	66	68
xBly SA	760	770	C Fire	5	7	Imp L	73	74	xN Gldfi	25	27
Do p	171	174	xC Gill	5¼	7	Imp O	33¼	33½	xN Rk	87	89
Do 5%	17¼	17¾	xCG Ar	28	30	I Tob	11¼	11½	xNthsp	90	91
xBanff	112	119	xC Hall	53	54	Do p	3¾	5¼	xDo Aw	34	39
xBnknn	26	27	xC Hwy	247	260	I Acc	24¼	25½	N-Sco	34¼	34¾
xBnkfld	8	9	xC Mrbn	26½	28	Do 450 p	82½	83	Do A	18¾	19¼
Bk Mtl	49¼	50¼	xC Mrcs	60	65	Do 225 p	41	44	Do p	42½	42¾
Bk NS	62¼	62¾	xC M M	266	270	Do 275 p	40¼	49½	xDo w	57	240 245
Ba Cndn	48½	50	C M S	17¼	17¾	Do w	10	17½	**Northern**		
Barb-E	70	..	xC Mogul	81	85	Inger A	34	35	xN Can	111	115
xBrchna	410	..	xC Moir	18	19	xIngus	5¾	5¾	No NG	13¾	13¾
xBarnat	143	145	xC Mos	164	165	Inge B	7	..	NQ P	24½	26
xBary E	44½	46	xC Nes	13	14	Do p	11	12	Do 1 p	45¼	46
xBase M	13½	15½	xC Nich	5	6	Inl C p	18¼	19¾	xNor Ph	355	365
xBaska	8	8¼	xC Nor	38	40	In G	5	5¾	xDo w	50	105
xBata	4	4¼	xC Pk	2¼	3	Do p	13¼	13¾	Nthld U	15½	16¼
Ba In	5	8	xC Pers	9½	12	xDo w	140	145	NW U p	70	72
Bath A	39½	40	xC Que	23½	35	Int Bro	13¼	14¼	xNthld	15	16
Do B	26½	27	xC Red P	7	7¼	Do 1 p	15	16	xNorval	11	11¼
xB-Duq	18	19	xC Reg	7	8¼	xHalint	196	200	xN Bcage	80	100
Beatty	6½	7	xC San	5	6	H Cot	16	16¾	N S Lt &	..	..
xBeav L	9½	10¼	xC Sud	29	29½	H Carp	11¼	11¾	Pwr	13	13¾
B Lum	22¼	23	C Textile	240	300	Hardee	9¼	9½	xNudul	14½	15
Do A	16	17	xC W P	325	340	Do p	96	96	Oak W	14½	15
Do p	..	27	C Gas	35½	36	xHd Rck	14	15	xOban	6	6½
xBelch	58	64	Do A	100	..	xHar-M	6¼	9	xOBrien	60	64
Bell	43¼	43¾	Do B	99	100	Hartz A	12¼	13½	xO Cem	11	11¾
xBellet	16	29	Consu Gl	23	25	xHasaga	8¾	9	Off Sp	14	15
xBthlm	72	73	Con C	40¼	41¼	xH of-L	8	8¼	xOka R	10	15
xBeven	14¼	..	xCnwst	356	370	xHdwag	23½	25	xOkalt	48	49
xBibis	10	10½	Cop Cl	61	7	xHeath	5	5¾	xOkanagan	10	11
xBicrft	52	53	xC Cor	17	19	xHees	42½	52½	xOkat	8	8¼
xBidcop	9	10	xCop-M	8¼	9	xHendrs	7¾	..	xOkn Gas	3	3¼
Bilt	6¼	8¼	xCprnd	118	120	Do pf	87½	90	xOlympia	6	7
Do p	13¾	14	Corb vt	17	17¾	xHigh-B	150	155	xO Mtl	5	6
xBl Bay	12¾	14	Do B	16¾	17	H D	50	51	xOnaman	4	4¼
xBordul	6	8	Comos	12¼	13	Hi-T	7¼	8	xOnaping	6	7
xBouzn	45	46	xCoulee	24	27	xHold A	5¾	6¼	xOnen	4	4½
Bow p	42	42¼	xCourn	6¼	7¼	Do B	250	..	xOnt Loan	23¾	27
Do 5½ p	45	46	xCowie	48	50	Holinge	22¾	24	O Sti	20¼	22½
Bow-Mer p	44	45½	xCraig	190	200	Holt Renf	14¼	15	Do p	..	125
Bowes	25	30	xCrgmt	360	365	Ho O A	10¼	10¾	xOpem	550	555
xBoymr	6	7¼	Crain RL	17	17¾	Do B	96½	99½	xOrchan	108	110
xBrlin	525	540	xC Telef	101	102	Jaica Pub	28	30	xOrena	6	7
xBrasla	40	63	xCree w	240	247	Jaica P.S.	103	..	xOsisko	29	31
xBrazil	415	420	xCrst	9	12	xJaye	21¼	24	Overland	7¼	7¾
Do p	79	89½	xCrsbk	140	140	Jefi	6¼	6¾	Do p	8¼	9
Br T	20	21¼	Do p	14	18	xJellico	8	8½	Pac P	11¼	11¾
Do p	40	44	xDo w	5	15	xJburk	9	10	xPadw w	7¾	8¼
Bright C	42	46	xCrol	9	9½	xJock C	210	220	xPan Am	25	25½
Do p	20	22	Cr Cork	50	58	Do p	9¼	9½	Pge Her	26¼	28½
xBritalt	251	260	Cr Tr	25	26	Do b p	8¼	9	xPall	31½	50
BA Oil	31½	31¾	Cr Zell	41¼	43	xDo w	38	40	xPamoil	36	37
BCE 4 p	..	70	Cr Zellerb			Jons-M	50¼	50¾	xPmour	60	64
Do 4½ p	37¼	37½	(Cda)	18½	..	Joliet	23½	25	xParam	7	8
Do 4½ p	39	39½	xCrowp	8	9	xJonsm	11¼	13	xPardee	16	16½
Do 4½ p	81½	83	Crow	16½	17	Jud B	46	46¼	xParker	325	340
Do 5 p	43½	44½	Crush	8¼	9	HB O G	12	12½	Patno M	300	330
Do 5½ p	47¼	48½	Do A p	101	101½	xH-Pam	9	10	xDo w	25	28
BC For	12	12¼	xCusco	5	5¾	Hu O A	..	14	xPato	270	280
BC P A	14¼	14½	xDaer	12	14	Do B	..	14½	xPcmst	20	21
Do B	14	14½	Diex p	..	86	Do p	23¼	..	xPdc Exp	12¼	16
BC Pow	31¾	31¾	xD'Ara	26	27	Hur Er	51	52½	xPdess	21	22
BC Phone	43	43¼	xDe C	11½	12	xHydra	32	40	Pbina	7¾	8¼
Brck C p	10¾	10¾	xDeer H	20	21	Imp B	36½	37	Do p	39	45
Brooke p	18	19	xD'Eld	8½	9	I Flo	35	35	xPmms	25½	26¼
xBr Reef	43	46	xDelte	45	53	I In A	9	9¼	Do p	100	110
Brown	13¼	13¾	xDev P	83	85	I Liv P	19½	20	PC Jf	18	24¾
Bruck A	9	10¼	D Seag	23¾	23¾	Do p	19½	20	Do p	92	95
xDo B	275	340	Dome	20¼	20½	Imp L	73	74	xPino p	70	75
xBrnsk	320	340	xD Pete	800	850	Imp O	33¼	33½	xPerron	16¼	17
xBufad	8	8¼	**Dominion**			I Tob	11¼	11½	xPeruv	130	140
xBuf A	180	189	D Ang	500	..	Do p	3¾	5¼	xPetrol	94	97
xBuf RL	7	8	Do p	..	93	I Acc	24¼	25½	xPhil	70	73
Bld Fed	31¾	32	D Birge	18¾	18¾	Do 450 p	82½	83	Pig Lng	15	15¾
Bull A	6	6¼	xD Coal p	350	425	Do 225 p	41	44	xPck Cr	86	90
Do B	5	5¼	Dom Corst	17¾	18	Do 275 p	40¼	49½	xPit-Ot	5¼	6
xBunk H	6¼	7	D Dair	10	10½	Do w	10	17½	xPlace	77	80
Burlton	15¼	16¼	Do p	23	25	xIngr A	34	35	Placer	11¼	11½
Burns	12¾	12¾	D Elec	7½	8¼	xIngus	5¾	5¾	xPonder	20	21
Burr A	3¼	4	xDo w	425	475	Inge B	7	..	xPorty	67	68
xCable	13	14	D Fab	..	12	Do p	11	12	xP Quru	33	36
xCdmet	13	15	Do 2 p	20¼	22½	Inl C p	18¼	19¾	Pow Cp	47¼	..
xCalalta	50	52	D Fdrs	43¼	43¾	In G	5	5¾	xPrairie	240	255
Cal Ed	19¾	19¾	D	96	98	Do p	13¼	13¾	xP Pipe	300	315
Cal Pow	18	18¼	D Ins	..	310	xDo w	140	145	Prem T	151½	155
Do 5 p	94	100	D Mag	7	8	Int Bro	13¼	14¼	xP Iron	310	330
xCalv C	325	343	D Scot	31½	33	Do 1 p	15	16	P Dr El	53	63
xCalvert	52	55	Do p	40	48	xIntpipe	53	56	xPrecam	4	5
xC Chib	460	465	Dosco	12¼	12¾	Do 55w	4	..	xPrdex	6	6½
C R L	13¾	14	D Stra	47¼	47¾	Do 59w	63	..	xPremium	90	95
Canada			D Tar	13¾	14¼	Inv Syn	33	38	xQ Ascot	14	15
xC Brd	375	415	Do p	19¼	20	Do A	27	27½	xQ Chib	21	22½
Do B	..	58	D Tex	8¼	9	xIrish	125	129	xQ Cop	14	15
C Cem	27¼	28¼	Do p	111	131	xIrn B	270	275	xQ Lar	3¾	4
Do p	24¾	25	xDonal	7	8	Iroq G p	13¾	14¼	xQ Lith	266	295
CCC St	13¾	14¼	Donohue	14	14½	xIso	37	39	xQ Man	11	14
C Foil	19¾	21	Dover	8	13	xJ Wai	32	34	xQ Met	46	48
Do A	18	23	Do p	9	12	xJacobus	14	15	xQ Nat	6	7
C Fnd A	20	23	Dow	45	54	xJaica Pub	28	30	xQ Pan	5	6
C Fnd	8	14½	Dup Fre A	6¾	8	Jaica P.S.	103	..	xQ Pow	140	145
Cl Fnd	21¼	21¾	xDuvan	13	14	xJaye	21¼	24	xQ Rad	5	6
Do 4½	75	77	xDuvex	6	7	Jefi	6¼	6¾	xQ Rbr	64	66
C Mach	10	15	xDynam	129	130	xJellico	8	8½	xQ Rlor	64	66
C Malt	47	50	xE Am	7¼	8	xJburk	9	10	xRainy	25	26
Do p	23¼	24¼	E Koot	7	10	xJock C	210	220	xRanger	140	143
xC O Lds	110	124	xE Mal	150	155	Do p	9¼	9½	Rap-Gri	13¼	13¾
xDo w	26½	29	xE Sull	151	158	Do b p	8¼	9	xRavro	46	47
C P A	45¼	46¼	Easy p	17¼	17¾	xDo w	38	40	xRealm	29	30
Do B	42¼	44	Econ I	37½	..	Jons-M	50¼	50¾	xRecf	4	6
C Perm	49½	49¾	Eddy	52¼	58	xJonsm	11¼	13	xReeve	160	169
C Saf 4 p	80¼	84	Ed Ma	26½	28	Jud B	46	46¼	Reichld	19½	20¼
xCSO w	27	45	xElder	130	132	Kel B	84	9¼	Reitmn	15	16¼
xCS Pet	385	395	xEldr	17	18	xKenvil	20¼	21	xRenab	183	190
CSL	39½	40¼	xElectr C	98	..	Ker Ad	20¼	21	xRexsp	31¼	32
Do p	11¼	11¾	Electrolux	16¼	17	xKil	210	211	Resn p	80½	83
C Wire B	7¼	7¾	xEl Sol	6¼	7¼	xDo C w	51	54	xRio R	5¼	7
Canadian			Emco	10	10¼	xKirk M	36	37	Rio $175	19	22½
xC Ast	5¼	7¼	Em Life	56	59	xKnk T	9½	10	R Sk A	7¼	7¾
Cdn Avia	13	14	En & Heat	8½	10	Labatt	24¼	24¾	xDo B	..	400
C Baks	6	7	Eq Life	53½	55	Labdor	23¼	24	xRix	17	18
C Bnk C	49½	49½	Erie A	5	6¼	Lafarge	7¼	8¼	Rbtsn Jas	..	15¼
C Br	31¼	31¼	xDo B	100	200	Do w	65	..	Robetsn	12¼	16
Do p	..	32	xEurka	27	28	Do A	8	8¼	Do A p	18	19¼
C Brew rts	65	66	Falcon	28¼	28¾	xLaura	12¼	14	Do p	18	19
CB Al	12¼	13	Fam Pla	20¾	20¾	L J A	19	..	Rockwin	21¼	22
xDo Aw	550	595	Fan F	15¾	16	Do B	21	..	Rky p	5¼	6
xDo Bw	450	500	xFirdy	70	73	xLeitch	141	144	Roe AV	5¼	5¾
C Can A	12¼	12¾	xFargo	365	390	xLenc	7	8	Do p	65	70
C Cel	18¼	19	xFeltex	8¼	9¼	Lewis Bro	10¼	11	Rogers A	32	33
Do $1	16¼	16¾	xFerro	35½	39¾	xLexndn	3	3¼	Do p	70	72
Do $175	29½	32	xFleet	55	60	xLLL	180	182	xRoman	6	6¼
C Chem	6¼

THE WEEK'S QUOTATIONS

Quotations here listed are the official, exchange prices for listed stocks including curb market quotations. For unlisted stocks, quotations by unlisted dealers are given. The Financial Post cannot accept any responsibility for these quotations

Montreal and Toronto Winnipeg, Calgary and Vancouver

Bid and Ask quotes of Toronto and Montreal exchanges up to press time are published on page 35

Industrial Stocks

WEEK ENDING MARCH 18, 1960

Range 1959-60 High	Low	Div. $	Yld. %	Company	Sales	Last Mar. 11	Week end. Mar. 18 High	Low	Close or Latest
1.00	.24	..	..	Abitca Lumber	86550	.35	.44	.33	.42
41¾	33	1.70	4.7	Abitibi	5497	36	36½	35¾	36¼
24	21¾	1.12½	5.2	Do. 4½% Pref.	120	22	21⅞	21¾	21¾
12	9	.60	6.3	Acadia Atlan.	685	10	9¾	9½	9½
98	90	5.00	5.6	Do. 5% pref.	nil	..	B87	A88½	90
22	18	1.20	6.3	Do. (A)	185	19	19⅛	18	19
17¾	17¾	..	..	Admiral	nil	..	B18¾	A18½	17¾
21	12¼	.70	3.8	Agnew Surp.	710	18	18½	18	18½
4.50	2.25	..	..	Alaska Y. Pipe	nil	..	..	A2.30	2.50
2.00	.70	..	..	Alaska Refin.	nil	..	..	A.80	.75
13	6	..	..	Do. pref.	nil	..	..	A5	6½
3.60	2.25	..	..	Albt. Dist.	4900	2.25	2.45	2.25	2.45
2.80	1.80	..	..	Do. V.T.	8410	1.85	1.95	1.85	1.90
1.85	.80	..	..	Do. S. Pur. W.	2425	.82	.85	.80	.80
30	20⅞	..	..	Albt. Gas Tr.	40556	23½	24⅜	23⅜	24½
23½	16½	1.00	5.9	Algoma Cent.	520	17½	17⅝	17	17
72	55	3.00	5.5	Do. 6% pref.	40	55½	55	⅓53	55
10.75	4.50	..	..	Do. Warr.	106	5.10	6.00	5.50	5.50
42¼	32¼	*.20	..	Algoma Steel	15143	32⅜	33⅛	32½	32⅞
9	7	⅛.25	..	Algonquin	..	..	B7½	A8	8
20	18½	1.30	7.0	Do. pref.	nil	..	B18	A19	18½
37⅜	26⅛	*▲.15	..	Aluminium	19952	28¾	29½	28¼	29¼
22	19¼	1.00	5.2	Alum. of Can 1 p	1265	19½	19¾	19⅜	19⅜
45	40	.2.25	5.5	Do. 2nd pref.	335	40⅜	41⅜	40⅜	41
12.50	5.50	..	..	Analogue	400	5.75	6.30	6.25	6.50
7.00	2.50	..	..	Do. Warr.	nil	..	B3.00	A3.15	3.00
7	5	⅛.35	..	Andian Nat.	nil	..	B5½	A6½	6⅛
25	22½	.50+*.25	..	Anglo Can. Oils. (Brandon)	5	24⅛	⅓25½	⅓25½	⅓25½
46	37	2.00	5.3	Ang. Cdn. Pulp.	nil	..	..	A37¼	37⅞
53	48	2.80	5.6	Do. pref.	2150	50	50	49	50
43	37	2.25	5.6	Ang. Can. Tel. p	755	39	40	39	40
49¼	47¾	2.90	6.0	Do. $2.90 pref.	25	47	48	48	48
8½	6¼	.20+*.10	..	Ang. Nfld.	7409	6¼	6⅝	6⅛	6½
45	..	*.25	..	Angl-Scand. Inv.	nil	..	..	..	..
35	32½	1.40	4.2	Anthes Imp.	300	33	33	33	33
100	85	5.50	6.5	Do. 5½% pref.	..	..	B85½	A90	85
42¼	26½	1.00	3.7	Argus	2030	28	27¾	27	27¾
93	58	2.40	4.3	Do. A pref.	nil	..	B55	A71	⅓56
48⅜	43	2.50	5.8	Do. B pref.	110	43½	43½	43	43
..	..	▲1.00+*▲	..	Aro Equip.	nil	..	..	..	..
36½	20⅜	1.20+▲1.20	..	Asbestos	2685	23¾	25	23	25
9.00	4.85	.80	10.3	Ash Temple	500	7.50	7.75	7.75	7.75
190	⅓90	6.00	6.7	Do. (A)	nil	..	B92	A100	⅓90
9⅜	8¼	.65	7.2	Do. (B)	nil	..	B9	A10	9
10	10	.60	5.5	Ashdown Hd. A.	nil	..	B10½	A12½	10⅞
16½	10½	.72	5.5	Do. (B)	600	11½	13	13	13
..	..	▲4.00+*▲2.00	..	Assoc. T&T pref.	nil	..	..	..	101
14½	5⅞	..	..	Atlan. Accept	80	12⅞	12	12	12
20¾	15	1.10	7.3	Do. pref.	55	20¼	⅓15	⅓15	⅓15
29¾	21½	1.00+*.25	..	Atlas Steels	4168	23	24	22½	23
34½	18¾	1.40+⅛.15	..	Auto Electric	1310	24¾	28	23½	27
10.00	6.00	*.15+*▲.15	..	Auto Fabric A.	nil	..	B7	A9	8
4.50	2.25	..	..	Do. (B)	nil	..	B3.00	A3.65	3.80

B

63⅝	47½	1.60+⅛.35	..	Bk. Can. Nat.	1120	49	49	48½	49
62¾	47¾	1.60+⅛.35	..	Bk. Montreal	10138	49¾	51⅛	49⅜	50¼
84½	62¾	2.20+▲.40	..	Bk. N. Scotia	1786	62	62¾	61	61¾
45	33	1.00+1.25	..	Bk. Provincial	429	36½	36	⅓35½	35½
..	..	4.00+⅛2.40	..	Barber-Ellis	nil	..	B60	..	..
..	..	3.50	..	Barcelona	nil	..	B4.10	..	⅓5.25
..	6⅝	..	..	Bates & Innes A	nil	..	B5	A8	6¾
52	37	2.00	5.1	Bathurst Pr. A	900	37½	39½	37	39¼
36	22¼	..	..	Do. (B)	455	23	27½	23	27½
13.37½	6.37½	.40+1.10	..	Beatty Bros.	450	6.50	7.00	6.75	6.87½
30	21	1.00+1.25	..	Beaver Lumber	350	22¾	23	22¼	23
18½	16	1.00	6.1	Do. (A)	..	..	B16	A16¾	16¾
28	25½	1.40	5.2	Do. pref.	..	..	..	A27	27
13½	10	..	..	Bending Corp.	170	12	12	12	12
12½	11	.70	5.8	Do. pref.	..	..	B12	..	12
8	7	..	..	Belgium Stores	..	..	B7½	A10	7½
13⅞	13	1.00	7.6	Do. pref.	..	..	B13¾	..	13¾
44⅛	39¼	2.20	5.1	Bell Telephone	24171	43	43¼	43	43⅛
8	6½	.40	6.2	Biltmore Hats	..	..	B6½	A8½	6½
14½	12½	1.00	7.3	Do. A pref.	..	..	B13¾	A14	13¾
52	47	2.50+⅛.40	..	Bird Constr.	nil	..	B50	A55	55
14¼	8	⅛▲.20	..	Blue Bonnets	110	8¼	9	8½	9
2.75	1.40	..	..	Do. Warr.	nil	..	B1.20	A2.00	⅓1.20
49½	44	2.75	5.9	Bowater Mer. P.	5	46¾	46½	46½	46½
10.87½	6.00	1.35▲	..	Bowater Paper	3996	8.62½	9.25	8.75	9.12½
49	39¾	2.50	6.0	Bowater NA 5% pf.	260	41¾	42	41⅛	41⅞
50½	45	2.75	6.0	Do. 5½% pref.	110	46¼	⅓46½	43	46
29½	19½	1.00+1.50	..	Bowes Ltd.	nil	..	B25	A30	27
9½	6¼	.60	8.6	Boyles A	nil	..	B7	A7¼	7
5¾	4	..	..	Do. (B)	nil	..	B3.50	A5.00	4.00
7.62½	4.00	..	..	Brazilian Tr.	14041	4.30	4.30	4.20	4.25
90	90	6.00	7.1	Do. pref.	nil	..	B70	A.93¾	85
25	19	1.20	5.6	Bridge & Tank	125	22½	22½	21¾	21¾
63	44	2.90	6.6	Do. pref.	120	44	44	44	44
50	37¾	1.00	2.2	Bright, T. G.	100	41	45¼	45¼	45¼
21	20½	1.15	5.8	Do. 5% pref.	nil	..	B20	A22	20
53	42	*.50+▲.80	..	Brit. Am. Bk. N's	30	50	50	50	50
44½	28	1.00	3.2	Brit. Amer. Oil	28360	30⅜	31¾	29⅝	31¼
78	68¾	4.00	5.7	B.C. Elec. 4% pf.	220	69¾	70½	69¼	70
41½	35¾	2.12½	5.7	Do. 4½% pref.	2030	37¼	37¼	37¼	37¼
7	3¾	..	5.8	Do. 4% pref.	225	38	39¼	38⅜	39
91	80	4.75	6.0	Do. 4¾% pref.	262	⅓80	82	80	80
49	42½	2.50	5.7	Do. 5% pref.	439	43½	44½	43½	43½
52½	47	2.75	5.7	Do. 5½% pref.	245	48	48½	47	48
18	11½	*.25	..	B.C. Forest	3925	12⅜	12¼	12½	12⅜
18	13	.75	5.4	B.C. Packers A	255	13¾	14	13¾	14
18	13½	1.00	7.1	Do. (B)	1035	14¼	14½	13¾	14
40¼	31½	1.40	4.3	B.C. Power	5738	32⅜	33¼	31½	32¼
47¾	39¼	2.20	5.2	B.C. Tele.	1740	42⅜	43¼	42	42⅜
1.30	.90	..	..	B.C. Turf	1800	1.20	1.30	1.25	1.25
18	17	1.04	6.1	Brockville Pf.	4375	10	10⅝	10	10⅛
18	17	1.04	6.1	Brooke Bond pf.	nil	..	B18	A19	17
14⅞	9¼	⅛▲.20+*	..	Brown Co.	6054	14¼	14½	13⅝	13½
13½	8¾	.30	..	Brunt S. Mills A	200	9⅞	9	9	9
5.00	2.20	..	..	Do. (B)	nil	..	B2.50	A3.00	2.25
39	28¾	1.80	5.9	Build. Prod.	1270	32½	32	30	30¾
7	5½	.50	8.3	Bulloch's A	nil	..	B6	A6¼	6
5¼	5	.35	7.0	Do. (B)	nil	..	B5	A5½	5
24	16	.60+⅛.25	..	Burlington Steel	30	16¾	17	17	17
14¾	11¼	.80	6.4	Burns & Co.	1237	12⅜	12¾	12½	12¾
8	5	.45	7.5	Burrard D.D. A	155	6	6½	5	6
9½	9	.60	6.5	Burrard Mtg.	nil	..	B9	A9½	9¼
3½	2½	..	..	Do. Warr.	nil	..	B2¼	A3	2½
2.75	1.75	..	..	Butterfly Hos.	nil	..	B2.10	..	2.10

C

20	16½	.40	2.2	Calgary Pwr.	9360	17	18	17	18
103	93	5.00	5.3	Do. 5% pref.	38	94	94½	93	94½
Canada									
5.50	3.50	.10	2.9	Canada Bread	nil	..	B3.75	A4.15	3.50
58	55	2.50	4.6	Do. Pref. B	nil	..	..	A58	⅓54¾
37	28⅞	1.00+▲	3.6	Canada Cement	5315	28	28⅞	28⅞	28
28½	24¾	1.30	5.0	Do. Pref.	802	26¼	26½	26	26
23¼	12½	.20	1.4	Can. Cr. & C. Stone	100	15	14	14	14
27⅛	14	.60	4.5	C. & D. Sugar	1936	14⅜	14¾	⅓13⅜	⅓13⅜
15½	14	1.00	7.1	Can. Floor B	..	..	B13	A15	14
24½	20	.60+2.20	..	Can. Foils	..	..	B19	A19	⅓19
30	21	.60+▲.40	..	Do. (A)	..	..	B19	A23	21
12	12	..	..	Can. Forg.	..	..	B8	A14¼	12
30	22¾	1.50	6.6	Do. (A)	..	..	B20	A23	22¾
37¾	19½	1.50	7.1	Can. Iron	5791	21⅞	22	20⅝	21
101	75	4.25	5.7	Do. 4¼% Pref.	45	78	75	75	75
15	15	.50	..	Can. Machine	..	..	B10	A15	15
76½	45½	2.50	4.2	Can. Malting	761	47	⅓47½	45½	⅓47½
26	23½	1.17	5.0	Do. 4½% Pfd.	270	23½	23½	23½	23½
57	45½	⅓11.75	..	Can. Packers A	150	46¼	46	46	46
50	43⅛	⅓11.75	..	Do. (B)	305	44	44	43⅛	43⅛
70	48½	2.00	4.0	Can. Perm. Mtg.	240	⅓90	90	90	90
91	79	4.40	5.6	Can. Safeway Pr.	10	80	⅓78	78	78
49¼	39¾	1.40	3.5	Can. Steamships	630	39½	40	39½	39¾
13	10¾	.62½	5.7	Do. Pref.	3930	11	11	10¾	11
⅓38½	28	1.20+▲.20	..	Can. Vinegars	nil	..	B31	A31	30
8	8	..	..	Can. West Cord A	nil	..	..	..	..
..	..	..	..	Do. (B)	..	..	..	..	..
115	100	4.00	4.0	Can. W. Cable A	nil	..	..	..	⅓100
15½	6¾	*.05	..	Do. (B)	125	7¼	7¼	7	7¼
Canadian									
155	155	14.00	..	Canadian Arena	nil	..	B160	..	155
19½	13	..	..	Cdn. Aviation	115	14¾	13½	13	13½
8½	6	⅛.25	..	Cdn. Bakeries	370	6	6¼	6	6¼
66⅞	46¾	1.60+*.25	..	Cdn. Bk. Com.	7420	48¾	50⅜	49	49⅜
42¾	31⅜	1.60	5.1	Cdn. Breweries	14874	32⅜	32	31½	31⅝
.79	.70	..	..	Do. Rights	97831	..	.79	.70	.73
42½	31¼	1.25	4.0	Do. Pref.	380	32½	32¼	32¼	32¼
17⅜	11	..	..	Cdn. Br. Al. A	625	11⅞	12⅛	11⅞	12⅛
10.00	4.10	..	..	Do. Warr. A	430	5.50	5.80	5.50	5.75
8.70	3.45	..	..	Do. Warr. B	1155	4.75	6.00	4.80	6.00
26	20	1.50	6.9	Cdn. Bronze	220	22	21¾	20	21¾
90	90	6.00	6.3	Do. Pref.	..	..	..	A89	180
16⅝	12	.75	5.8	Cdn. Canners A	154	12½	13¼	12¼	13¼
24⅝	18	*.25+⅛.15	..	Cdn. Celanese	1929	19	19½	18¾	18¾
33	27	1.75	5.8	Do. $1.75 Pref.	175	29	30⅛	30	30
20	15½	1.00	6.1	Do. $1.00 Pref.	50	⅓16	16½	16½	16½
9½	5⅝	..	..	Cdn. Chem. Ltd.	5790	6¾	7	6⅝	7
11.12½	4.55	..	..	Cdn. Collieries	19450	8	9⅞	8	9
.85	.68	.05	0.7	Do. Pref.	3235	.73	.75	.72	.75
4.50	3.00	..	..	Cdn. Convert A	nil	..	B3.50	A4.00	3.50
5	4½	..	..	Do. (B)	nil	..	B4.50	..	⅓4.00
4.10	1.85	..	..	Cdn. Curtiss W.	5750	2.00	2.05	1.85	2.00
18	12	.65	..	Cdn. Drawn Sti.	590	17	17½	17½	17½
13	10¾	.60+2.10	..	Do. Pref.	50	12	11¾	11¾	11¾
22	13¾	⅓11.50	..	Cdn. Dredge	5910	14	14½	14	14½
11½	8¾	.70	7.8	Cdn. Fairb. A	1760	9¼	9⅜	8⅞	9
8¾	5½	.60	9.2	Do. (B)	535	6¾	6⅞	6⅛	6½
125	105	6.00	4.8	Do. Pref.	..	..	..	..	125
5.00	2.50	..	..	Cdn. Food Prod.	nil	..	B3.00	A3.45	3.50
9½	5¾	..	..	Do. (A)	22	7½	6¼	6¼	6¼
62	41¼	..	..	Do. 4½% Pref.	15	43	48	45	48
1150	900	8.00+*4.00	..	Cdn. Gen. Elec.	nil	..	B780	A1180	900
38½	29½	1.20+*.15	..	Cdn. G. Inv.	50	29½	30	30	30
19½	14½	.25+⅛	..	Cdn. G. Sec. A	250	14¾	15	14¾	15
19½	16	*.25+⅛	..	Do. (B)	100	19	16	16	16
12½	7½	.20	2.0	Cdn. Hydrocarb	3514	9⅝	10⅛	9½	9⅞
6	6	.10	1.5	Cdn. Ice Mach.	nil	..	B6	..	6½
12⅜	10	.80	6.7	Do. (A)	nil	..	B11½	A11¾	12
20¼	13¾	.50	3.4	Cdn. Indust.	3876	13¾	14½	13¼	14⅛
80	73	3.75	4.9	Do. Pref.	nil	..	..	A76	76
48¼	35	1.00+1.25	..	Cdn. Ingersoll R.	nil	..	..	A38	37¾
21	18⅞	*.50	..	Cdn. Int. I. Tr.	100	19½	19	19	19
81	77½	5.00	6.5	Do. Pref.	50	77½	77½	77½	77½
24	12¼	..	..	Cdn. Int. Pwr.	1160	13½	14	13¾	14
47¼	40	3.00	7.4	Do. Pref.	405	40½	41	40	40½
2.05	.75	..	..	Cdn. Kodiak	4000	.93	.90	.70	.90
14½	6	..	..	Cdn. Locomo.	nil	..	B6½	A9¾	8½
8.25	5.00	..	..	Cdn. Marconi	1800	⅓4.95	5.37½	4.90	5.25
30½	19¼	.80	3.6	Cdn. Oil	6762	20	22	20¼	22
83	81	4.00	5.5	Do. 4% Pref.	10	⅓73	⅓72½	⅓72½	⅓72½
105	90	5.00	5.6	Do. 5% Pref.	40	⅓90	90	90	90
153	137	8.00	5.8	Do. 8% Pref.	10	139	139	139	139
31¾	22⅞	1.50	6.4	Cdn. Pacific	10919	23⅜	24½	23	23½
15½	9	..	..	Cdn. Petrofina Pfd.	1449	9¼	11	9½	10⅛
8	6	.20	..	Cdn. Pr. & Pa. Sec.	nil	..	B5¾	A6¼	6
2.80	1.40	..	..	Cdn. Propane	400	2.45	2.40	2.40	2.40
45	30	..	..	Cdn. Salt	225	37	37¼	37	37
2.25	1.00	..	..	Cdn. Silk A	nil	..	B1.50	A1.75	1.00
200	126	.60+2.10	..	Cdn. Tire	nil	..	B175	A185	175
..	1.00	4.8	..	Do. Pref.	nil	..	..	..	21
.94½	.83	.5.00	6.0	Cdn. Utilities Pf.	75	86½	83¾	83	83¾
79	74	4.25	6.1	Do. 4¼ Pf.	nil	..	B70	..	⅓70
24	14	.60	3.9	Cdn. Vickers	55	15	15⅜	⅓14¾	⅓15⅜
30	25	1.25	..	Cdn. Wallpaper A	175	29	27½	27½	27½
38	23	1.25	..	Do. (B)	250	30	30	28	28¼
16	13½	.80	5.6	C. West. Gas 4½ Pf.	160	14	13	14¼	14¼
21	18	1.10	6.1	Do. 5½% Pfd.	245	18¾	19	18	18
53	38½	1.00	2.5	Cdn. Westinghouse	725	40	40¾	39½	39½
1.40	1.00	..	..	Canarama	400	1.00	1.20	1.20	1.20
2.75	2.50	..	..	Do. Pref.	nil	..	B2.00	..	2.50
.50	.50	..	..	Do. Warr.	nil	..	..	..	.50
12¾	10	⅛.52	..	Capital Estates	nil	..	B9½	..	10
1.75	1.00	..	..	Carling Br. Alta.	nil	..	..	A1.10	1.00
1.60	1.00	..	..	Do. V.T.	nil	..	..	..	1.00
14	12⅜	.60+2.35	..	J. B. Carter A	nil	..	B12½	..	12½
.88½	.50	⅓2.00	..	Do. (B)	nil	..	B50	..	⅓53
44	38	.50+*.25	..	Cateli Food A	3	39¾	39	39	39
71	57	2.00	3.3	Chart Trust	60	62	60½	60½	60½
28½	19½	1.00	4.2	Chateau-Gai	5	24¼	24	24	24
68	49⅜	▲1.00	..	Chrysler Corp.	10	49⅜	51½	51½	51½
..	..	*1s	..	Cinzano A	nil	..	B1.50	..	⅓1.10
1.65	1.50	5½%	..	Do. 5½% Pref.	nil	..	..	..	1.65
6.12½	1.25	..	..	Circle Bar Knit	199	5.25	5.25	5.25	5.25
6.12½	2.50	..	..	Do. (A)	1466	5.50	5.75	5.50	5.75
25	20	*	..	Cochrane-Dun	50	20	⅓17	⅓17	⅓17
14⅝	14½	.80	5.3	Do. (A)	nil	..	B15	A16	⅓15
25¼	12⅛	..	..	Cockshutt Farms	1110	14¾	⅓.16	14⅜	⅓15¼
15.25	3.75	..	..	Cockshutt Pl.	100	4.25	3.75	3.75	3.75
4.25	2.25	..	..	Cold Lake Pipe	600	3.75	3.90	3.60	3.90
18	⅓18	*1.00	..	Coll. Terminal	nil	..	B13½	..	⅓18
16	15	*1.00	..	Do. Pref.	nil	..	B13½	A18	⅓14
5.25	3.50	*	..	Columbia Cell	2965	4.25	4.25	4.00	4.10
15¼	8½	.60	6.7	Comb. Enter.	530	9	9	8½	9
14	10½	.80+*.20	..	Conduits Nat.	nil	..	B12	A12½	12½
150	130	2.00	1.5	Conf. Life	nil	..	B134½	A155	137
167	156	..	..	Do. Offered	nil	..	B160	..	157½
10¼	7	.50	5.6	Cons. Bakeries	275	.8	9	8⅞	9
1.10	.80	..	..	Cons. Div. Sec. A	5	.80	4.60	⅓.60	⅓.60
32	31½	2.00	6.7	Do. Pref.	2	⅓30	⅓30	30	⅓30
5.50	2.00	⅛.25	..	Cons. Fire Ins.	nil	..	B3	A7	5.50
22⅞	17	.8 0	4.3	C. Min & Smelt	10066	17⅛	18½	17½	18½
45	36	1.60+*.40	..	Cons. Paper	5675	37	38¼	36¼	37¾
4.10	2.25	..	..	Cons. Textiles	nil	..	B2.40	A3.00	2.90
10	10	1.00	10.0	Do. Pref.	nil	..	..	..	10
47½	34	1.00	2.8	Consumers Gas	4129	36	36¼	33½	33¾
106	99	5.50	5.5	Do. A 5½% Pf.	25	100	100	100	100
105¼	99	5.50	5.5	Do. B 5½% Pf.	85	99½	100	100	100
35¾	22	1.50	6.5	Consumers Glass	210	23	22¾	⅓22½	23
42	42	▲1.80	..	Cont. Can.	nil	..	B40⅞	A41¼	42
8	6¾	▲.40 +⅛10	..	Copp Clark	50	6⅝	6¾	6¾	6¾
21½	16½	1.10	6.4	Corbys Vot.	355	17	17¾	17	17¼
20¾	16½	1.10	6.4	Do. B N. Vot.	125	17⅜	17¼	17	17¼
9⅜	7	.50	5.6	Coronation Mtge.	2400	9⅛	9¼	9	9
14	11	.70+⅛.10	..	Cosmos Imp.	735	12	12¼	12	12
2.70	1.75	*.04	..	Craig Bit.	nil	..	B1.90	A2.00	2.00
23½	13¾	*.10+⅛*	..	Crain, R. L.	115	19	19¼	19	19¼
11¾	8¾	..	..	Creative Tele	47423	10	11⅛	10⅜	11
5	3¼	..	..	Credit Accept.	nil	..	B4.60	..	4½
25	16	..	..	Credit Foncier	nil	..	N B102	A107	110
1.85	1.30	..	..	Crestbrook Tim.	nil	..	..	A1.30	1.40
22	16	..	..	Do. Pref.	nil	..	B14	A18	⅓15
.35	.16	..	..	Do. Warr.	nil	..	B.05	A.28	⅓.16
62½	52	2.00	3.6	Crown Trust	nil	..	B25	A26	25
34	25	1.00	4.0	Crown Cork	nil	..	B50	A57	55
58	W2	▲1.80	..	Crown Zeller	58	42¼	43	⅓41	⅓41
24	17½	1.00	5.4	Cr. Zell (Can.) A	730	18	18½	18¼	18½
24	14⅞	.60	3.5	Crow's N Coal	170	16½	⅓17⅜	⅓17⅜	⅓17⅜
9¾	7	*.10	..	Crush Int.	1000	.8¾	9	8¼	9
101	99½	6.50	6.4	Do. 6% Pf. A	100	100½	101	100¼	101

D

.85	.85	7.00	8.1	Dalex Co. Pref.	nil	..	B45	A53	⅓86
2.05	1.20	..	..	Dalfen's Ltd.	200	1.20	1.30	1.30	1.30
48	43	3.00	7.0	David & Fre. A	58	45	43	43	43
..	..	2.00	..	De Haro	nil	..	B155	A2299	190
35¼	27⅞	1.20+1.50	..	Distill-Seagram	7571	28⅝	29	28¼	28¼
535	535	⅓10.00	⅓7.00	Dom. Ang. Inv.	nil	..	B500	..	535
93	93	5.00	5.4	Do. Pref.	nil	..	..	A93	93
24½	17	.80+*.20	..	Dom. Bridge	5358	18½	18¾	17¼	18¼
8⅝	3½	..	..	Dom.

Mining Stocks

WEEK ENDED MARCH 18, 1960

Range 1959-60 High	Low	Company & Dividend ($)	▲Sales	Last Mar. 11	Week Ending Mar. 18 High	Low	Close or latest
.45	.22	Abacus	87844	.31	.33	.30	.33
.15½	.06½	Acadia Ur.	6050	.08	.07½	.07	.07½
.10	.04	Ad Astra	4600	.08	.05	.04½	.04½
3.80	2.40	Advocate	56940	2.85	3.50	2.85	3.40
.42	.11	Agassiz	nil				A.15 .15
.76	.50	Agnico *.06	17812	.64	.66	.64	.65
.58	.36	Akaitcho	10790	40	.38½	.38	.38½
.15	.05	Alba	4000	.05	.05	.05	.05
17.00	9.20	Algom $1	4971	10.62½	11.62½	10.50	11.62½
.40	.09	Alscope	11300	.12½	.13½	.12½	.12½
.45	.16½	Amal. Lard.	1000	.21½	.21	.21	.21
.18	.06	Amal. R. M.	1150	.08½	.08½	.08½	.08½
.06	.03	Amer'm	nil		B.03	A.04	.03
.91	.56	Ana.-Neph. 04	2500	.58	.60	.59	.58
1.18	.52	Anacon	21267	.60	.59	.53	.54
14.00	11.37½	Anglo-Hur. .50	896	12.62½	12.50	12.00	12.00
.45	.18½	Anglo-Rou	3200	.19	.21	.18½	.18½
.52	.13	Ansil	28600	.19	.19	.14	.15
.15	.05	Anthonian	nil		B.05	A.06	.07
.10	.02	Arcadia warr.	1900	.04½	.05	.04	.05
1.00	.71	Area	3700	.79	.86	.81	.86
.11	.07	Arjon	2000	.07½	.08	.07½	.07½
.10	.04	Arjon	10300	.06½	.06½	.06	.06½
.62	.37	Assoc. Arctia	16275	.40	.41	.37	.37
2.70	1.30	At-Coast Cop.	2700	1.40	1.30	1.30	1.30
.15	.04	Atlas Sulp.	16600	.07	.07	.06	.06
.15	.06	Atlas Y'fe	15000	.06½	.07	.07	.07
.25	.10	Atlin-Ruff	3900	.10	.10	.07	.07
.55	.20	Augustus	2485	.26	.26	.20	.28
21½	.08	Aumaches	7000	.08	.08½	.08	.08
.19	.05	Aumaqui	89480	.15	.15	.12	.12½
3.15	2.50	Aunor .16	233	2.66	2.65	2.65	2.65

B

.33	.11	Baker Talc	1600	.15	.15	.15	.15
.68	.07	Band Ore	nil				.05
.31	.16	Bankeno	22740	.29	.26	.25	.26
.10	.08	Bankfield	2000	.04	.08	.08	.08
1.94	1.24	Barnat	11850	1.42	1.44	1.05	1.42
.10	.04	Barvallee	nil		B.04½	A.08	.04½
.72	.43	Barymin .03	8600	.47	.46	.43	.43
.26	.10	Base Metals	14175	.13½	.15	.13½	.13½
1.00	.07	Bateman	24400	.08	.08	.08	.08½
1.30	.20	Bateman	74000	.25½	.28	.23	.28
.10	.03	Beatrice	500	.04	.03	.03	.03
.36	.10	B'tie-Duq.	7785	.18	.19	.17	.18
.85	.30	Beauce Placer	nil		B.40		.40
.25½	.08½	Beaver L'ge	1000	.11	.12	.10	.10
1.30	.56	Bethex	4000	.65	.65	.56	.56
.84	.32	Bellechasse	26400	.40	.38	.32	.35
.13	.04½	Belle-Chib.	1000	.04½	.04½	.04½	.04½
2.41	.12	Belterre	1500	.34	.29	.28	.28
2.05	.57	Bethle'm	14880	.71	.74	.70	.74
.26	.13	Bevcon	4042	.14	.14	.14	.14
27½	.67	Bibis-Yuk.	40660	.09	.13	.09	.10
1.05	.51	Bidgood	9333	.55	.55	.53	.54
1.20	.08	Bidcop	1800	.08½	.08½	.08½	.08½
.39	.08	Black Bay	1500	.12½	.13	.12½	.13
.10	.05	Bordulac	nil		B.06	A.08	.06
.15	.05	Bornite	4500	.06½	.06	.05½	.06
.79	.42	Bouzan A	23600	.46	.47	.44	.46
15½	.06	Boymont	3000	.07	.06½	.06	.06
8.15	4.90	Braminco-P.	40	5.35	5.10	5.10	5.30
.60	.41	Broulan	9400	.44	.47	.44	.47
3.40	2.25	Brunswick	950	3.50	3.70	3.30	3.30
.39	.08	Buffadison	11060	.08	.09	.08	.08½
2.58	1.30	Buffalo Ank.	1400	1.90	1.93	1.90	1.90
.09	.03½	Buff.+R.I.	16000	.07	.07	.06	.07
4.60	3.30	Bulolo 4.5	2200	4.20	4.20	4.20	4.20
.11	.06½	Bunker Hill	3500	.06½	.07	.07	.07
.42	.03	Burnt Hill	17200	.18	.20	.16	.16
.40	.06½	Burfex	nil		B.05		.08

C

.26½	.10	Cabie	3503	.16	.15	.14	.14
2.48	.11	Cadamet	2525	.13	13½	12½	13½
.07	.02¼	Cadamet	250	.03½	▲.02	▲.02	▲.02
10.30	4.50	Camp. Chib.	5750	4.75	4.90	4.60	4.60
		Campbell R.L.					
14.25	10.00	.35 ▲.05	1020	14.00	14.12½	13.62½	13.62½
		Canadian					
.13	.06	Cdn. Ast	4000	.06	.06	.06	.06
.75	.20	Cdn. Dyno	10450	.26	.30	.25	.28
.84	.30	Cdn. Mal.	25400	.59	.60	.58	.59
.49	.13	Cdn. N Inca	9500	.14	.13	14½	15
1.12	.26	Cdn. N'west	1000	.27	.26	.26	.26
.09	.04	Cdn. Thor	1425	.05	.04½	.04½	.04½
.10	.03½	Canalask	nil		B.04	A.06	.04
.27	.10½	Canam	2000	.12	.12	.12	.12
.28	.10½	Canbra	3100	.13	.13	.13	.13
2.46	.35	Can-Erin	72218	.93	.94	.84	.86
1.07	.06	Can-Met	80025	.06½	.08	.06½	.08
.60	.13	Canorama	34000	.48	.50	.47	.47
.14	.03	Canuba	nil		B.03	A.04½	.03
.67	.03½	Canusa	nil		B.04	A.05	.03
.15	.06	Canwin	13000	.07	.07	.07	.07
.26	.05	Caribec	8500	.06	.06	.05	.05
1.77	.78	Cariboo	7500	1.02	.95	.92	.95
.65	.14	Cartier Q	3060	.16	.24	.16	.17
		Cassiar Asb.					
13.75	9.40	.40 ▲.10	7130	11.00	11.87½	11.00	11.75
3.10	.35	Cayzor	1000	.40	.37	.37	.37
.20	.03	Cen. Manit.	nil		B.04½	A.06	.04½
2.30	.99	Cen. Pat	8610	1.10	1.16	1.09	1.10
.25	.09	Cen. Pore	1700	.12	.12	.11	.11
3.20	1.87	Chemalloy	56081	2.29	2.30	1.97	2.30
.08½	.03	Cheskirk	1000	.04½	.04½	.04½	.04½
.21	.05½	Chess	3000	.07	.05½	.05½	.05½
.35	.19	Chesterville	27600	.33	.33	.30	.30½
.23	.11	Chib. Cop.	9600	.13	.11	.11	.11
.53	.11	Chib. Cop.	11319	.13	.13	.11	.11
.27	.11	Chib. K'land	2500	.13	.11	.11	.11
1.65	.55	Chib. Min.	12500	.60	.60	.55	.55
.80	.45	Chimo	30100	.57	.64	.55	.60
.12	.05	Chipman	nil		B.04½	A.05	.05
4.95	2.30	Chromium	7415	4.20	4.95	4.25	4.85
.92	.65½	Cleveland	10500	.07½	.07½	.07	.07
4.10	2.80	Coclan ▲.12	9915	3.20	3.20	2.95	3.00
.21	.08	Cody-Reco	36500	.10½	.11½	.10	.10½
.19	.12½	Coin Lake	9500	.13½	.13	.13	.13
.42	.35	Coleman A			B.33		1.30
.42	.32	Do. B			B.33	A.38	1.30
.28	.13	Comba	1247	.24	.24½	.24	.24½
.18	.07	Cominda	9800	.07	B.07	A.09	.07
.75	.43	Comiagas	9800	.47	.51	.48	.49
.70	.27	Contaurum	1000	.51	.48	.48	.48
.35	.19	Con-Key	2500	.20	.20	.19½	.19½
.15	.05	Cons. B'keno	3000	.05½	.05½	.05	.05½
.20	.05	C. Beta	3066	.06	.06	.05	.06
.20	.06	C. Bi-Ore	133	.06	▲.03	▲.03	▲.03
.19	.07	C. Callinan	5700	.08½	.08	.08	.08
.08	.03½	C. Cad. Denison	6400	.04	.04	.03½	.04
16.12½	8.30	▲▲.100	28735	9.25	10.62½	9.30	10.62½
4.20	.01	Do. warr.	26215	.02½	.04	.01	.01
4.15	3.50	C. Disc'y ▲.24	17005	3.60	3.70	3.50	3.70
.63	.23½	C. Fenimore	1614	.25	.25	.24	.24
.10½	.05½	C. Gillies	4000	.07	.06½	.05½	.05½
.37	.19	C. Gold. Arr.	3000	.28	.29	.29	.29
1.05	.51	C. Hall'well	53812	.57	.59	.53	.56
4.50	2.31	C. Howey	1760	2.40	2.60	2.38	2.60
.64	.24	C. Marbenor	1600	.28	.28	.28	.28
1.15	.46	C. Marcus	1600	.60	.63	.60	.63
2.55	.81	C. Mogul	4230	.88	.86	.81	.83
.11	.05	C. Monpas	2000	.05	.05½	.05½	.05½
.44	.18	C. Morrison	7300	.20	.20	.18	.18
1.45	.63	C. Mosher	32000	1.38	1.44	1.38	1.44
.38	.13	C. Negus	8067	.14	.14	.13	.13
2.43	1.65	C. New Pac.	500	1.81	1.84	1.84	1.84
.08	.04	C. Nich	4000	.04½	.05	.04	.05
1.24	.24½	C. Northland	13011	.38	.39	.36	.37
.20	.09	C. Pershcourt	3000	.10	.10	.09½	.10
.43	.23½	C. Que. G.	1000	.28	.23½	.23½	.23½
.10½	.04½	C. Que. Y.	nil		B.04½	A.06	.04½
.13½	.05	C. Red. Pop.	nil		B.07	A.07½	.07
.25	.08	C. Regcourt	7000	.08	.08	.08	.08
.14	.05	C. Sn'mm	2000	.05	.05	.05	.05
22.62½	17.00	C. Smelt. .50	10006	17.12½	18.50	17.50	18.50
.20	.17	C. Stand. M.	166	.19	.15	.15	.15
1.10	.29	C. Sud'ry	15975	.32½	.33	.30	.31
.47	.25	Cont. Con. M.	6500	.32½	.29	.25	.29
.67	.32	Cont. Potash	250	.40	.32	1.20	.32
3.25	3.15	Conwest ▲▲.06	2533	3.50	3.65	3.50	3.55
.74	.18	Copper Corp.	14500	.20	.22	.18	.18
.16½	.07	Copper Man.	20500	.08	.09	.08	.08½
2.50	1.15	Cop. Rand	23552	1.15	1.20	1.16	1.16
.58	.26	Coulee	5200	.26½	.27	.26	.27
.12	.06½	Cournor	1250	.07½	.06½	.06½	.06½
1.39	.47	Cowichan	10250	.49	.50	.47	.50
3.15	2.65	Craigmont	3100	3.70	3.80	3.65	3.65
.12	.08	Crestaurum	2000	.09	.09½	.09	.09
.13	.06	Crofnor	1500	.07½	.07½	.07½	.07½
.19	.07	Crowpat	9500	.07½	.08	.07	.08
.18	.05	Cusco	8000	.05	.05½	.05	.05½

D, E, F

.40	.12	Daering	8481	.12	.12½	.12	.12½
.74	.23	D'Aragon	9100	.26½	.29	.26	.26
.34	.10	Decoursey B.	1000	.11½	.11½	.11½	.11½
.27	.15	Deer Horn	11600	.20	.21½	.20	.20½
.19½	.08½	D'Eldona	9986	.09½	.09	.08½	.09
.74	.43	Delnite	1500	.49	.46	.46	.46
.12	.08	Dicksfone C.	nil		B.05	A.15	.09
.17	.05	Dolsan	2500	.06½	.06½	.05	.05
21.12½	15.75	Dome .70	13161	20.00	21.00	19.75	19.75
.15	.07	Donalda	20100	.07½	.08	.07	.07
.46	.11	Duvan	8380	.13	.14	.13	.13½
.15	.05	Duvex	2725	.06	.06	.06	.06
.16	.06½	East Amph.	12500	.07	.08	.06½	.07
2.15	1.25	East Mal.	6710	1.43	1.55	1.43	1.55
2.75	1.41	East Sull.	10630	1.55	1.56	1.54	1.54
2.15	.80	Elder	48308	1.20	1.35	1.15	1.35
.50	.16	Eldrich	7000	.19	.18½	.16	.16
.14	.06	El Sol	16500	.07	.08	.06	.06
.45	.15	Eureka	72950	.28	.30	.25	.28½
.23	.09	Fab. Met.	11200	.12	.13	.11	.11
		Falconbridge					
33.87½	24.37½	▲.20	3913	27.62½	28.25	27.50	28.25
.09½	.03	Fano	10000	.03½	.03½	.03	.03
1.12	.58	Faraday	6600	.70	.72	.68	.71
19½	.08½	Farw't M.	7100	.08½	.09	.08½	.08½
1.12	.34	Fatima	27650	.56	.56	.51	.52
.01	.00½	Flin Flon	nil		B.00½	A.01	.00½
.07½	.03	Fontana '45	nil		B.04	A.05	.04
.50	.38	Forty-Four	100	.50	.50	.50	.50
.11½	.05	Francoeur	7100	.03½	.05½	.05½	.05½
.09½	.03	Friday	nil		B.04	A.06	.03
2.75	1.40	Frobisher	69625	1.63	1.65	1.40	1.60
86.00	73.00	Do. 4% deb.	70	85.00	86.00	85.00	86.00
.22	.03	Fundy Bay	6000	.05½	.06	.05½	.05½

G, H

.07½	.04½	Gaitwin	4100	.05½	.03½	.05	.05½
36.50	20.00	Gaspe Cop.	110	20.50	21.00	20.00	21.00
24.50	15.00	Geco	4662	15.12½	16.25	15.12½	15.87½
.20	.10	Genex	4000	.10	.11	.10½	.10½
1.55	.70	Geo-Scient.	3700	.76	.90	.75	.85
.33	.09	Giant Mas.	25975	.28½	.28	.26	.26
12.37½	6.25	Giant Yk. .40	1375	11.87½	12.00	11.75	11.75
.59	.20	Glacier	6250	.24½	.26	.23	.26
.14	.05	Glenn Ur.	3540	.06	.05½	.05	.05½
.25	.15	Golden	9500	.16	.16½	.16	.16½
.02	.00½	Gold Lake	nil		B.01	A.03	.00½
.80	.30	Gold. Age	13750	.34	.44	.35	.40
.46½	.20½	Goldfields	42300	.22	.23	.20½	.23
.30	.18½	Goldfray	19633	.23½	.24	.19	.19
9.00	6.00	Granby	200	6.50	6.20	6.20	6.20
.38	.10	Grandroy	nil		B.12	A.14	.12
2.25	1.00	Granduc	2600	1.00	1.10	1.00	1.07
.29	.15	Grandview	nil		B.12	A.18	1.14
.01	.01	Great Falls	nil		B.00½		.01
.20	.02	Greyhawk	2000	.02	.02	.02	.02
.21	.05½	Gui-Por Ur.	1000	.05½	.05½	.05½	.05½
.15	.05	Gulch	51500	.10	.11	.07	.08
.11	.05½	Gulf Lead	6000	.06	.06½	.05½	.05½
19.00	8.05	Gunnar G. 1.30	14674	8.20	8.40	8.05	8.30
7.50	.20	Do. warr.	24160	.25	.29	.23	.25
.10½	.04	Gwillim L.	5000	.06	.05½	.05½	.05½
.10	.03	Haitian	20000	.05½	.05½	.04½	.04½
3.70	1.95	Hallnor .16	nil		B1.85	A2.50	1.95

Bid and Ask quotes of Toronto and Montreal exchanges up to press time are published on page 35

Range 1959-60 High	Low	Company & Dividend ($)	▲Sales	Last Mar. 11	Week Ending Mar. 18 High	Low	Close or latest
1.84	.70	Sheep Cr. *.03	1500	.80	.80	.77	.80
4.67	2.35	Sherritt G	23363	2.65	2.85	2.60	2.75
4.50	3.75	Sigma M. .20	100	4.05	4.10	4.10	4.10
.33	.05	Sil'bak Prem.	20800	.29	.30	.24	.26
.65	.22½	Silver M.	3600	.37	.40	.38	.38
.19	.03	Silver R	nil		B.04	A.04½	.04
.43	.17	Silver Stand.	11000	.28	.27	.25	.26
2.09	.63½	Siscoe ▲.04½	8100	.95	.97	.93	.95
.07	.03	Skeena	3000	.03¼	.03	.03	.03
.21	.07	Slocan Duv.	8500	.08	.08	.08	.08
.38	.05	South-Duf.	65200	.21	.21	.18½	.18½
.19	.08	Stad'n '44	3000	.08	.08	.08	.08
.18	.08	Standard G	500	.08	.08	.08	.08
1.40	.26	Stanleigh	8259	.32	.30	.26	.27
.66	.03½	Do. warr.	5340	.08	.08	.07	.07
2.00	.25	Stanrock	1325	.33	.31	.30	.31
.01	.00½	Star Lake	nil		B.00½		.01
1.90	1.05	Star Land Ex.	nil		B1.25	A1.95	1.35
.09	.03½	Starrat O.	24000	.06	.06½	.05½	.06
.08½	.04	Steeloy	4000	.04½	.04	.04	.04
15.37½	10.00	Steep Rock	17997	10.50	10.87½	10.37½	10.62½
.27	.12	Sturgeon R.	3000	.12	.18	.18	.18
1.11	.05	Sudbury G.	10500	.06	.06	.05	.06
2.85	1.45	Sullivan	8060	1.63	1.65	1.62	1.63
.27	.14	Sunburst	3700	.15	14½	.14	.14
.19	.11	Sunshine	nil		B.11½	A.13	.12
1.25	.60	Sylvanite .06	1900	.70	.70	.67	.67

T, U

.25	.08	Tache Lake	10000	.08	.09	.08	.09
.89	.50	Taurcanis	6900	.55	.56	.50	.50
.72	.44	Do. v.t.	nil		B.41	A.45	.44
.26	.13	Taylor B.	1000	.15	.13	.13	.13
.25	.08	Tazin	7500	.08½	.09	.08½	.09
2.60	1.60	T.-Hughes .10	14685	1.76	1.85	1.75	1.76
3.70	1.25	Tempgami	10350	1.55	1.50	1.25	1.50
.55	.30	Territory	1000	.35	.30	.30	.30
.99	.35	Thompson	122174	.96	.99	.82	.85
.14	.06½	Tib-Explor.	24000	.07	.08	.07	.08
1.53	.22½	Tombill	4525	.47½	.47	.40	.47
.45	.24	Torbrit S.	6500	.31	.31	.27	.27½
.75	.09	Torwest	9500	.09½	.10	.09½	.09½
.14	.06½	Towagmac	1500	.07	.10	.06½	.08
.29	.14	Trans. Res.	2800	.14½	.15	.14½	.14½
.09	.03	Trebor	nil		B.03	A.04	.04
.60	.26	Tribag	5000	.31	.30	.30	.30
.30	.12	Trinity	2575	.13	.13	.13	.13
.23	.04	Trojan	33091	.08	.09	.07	.07½
.24	.08	Ultra-Shaw	3666	.10	.10	.09	.09
.23	.18	Unn. Min.	1500	.24	.20	.20	.20
6.90	3.60	United Asb. Un. Keno	1320	3.60	3.60	3.60	3.90
6.75	3.95	▲.16 ▲.04	8160	5.75	5.85	5.70	5.75
.61	.16½	Un. 'N Fort.	3175	.20	.20	.19	.19
		Upper Can.					
1.44	.88	▲.02½	6580	1.10	1.12	1.08	1.09
.02	.00½	Utica	1000	.02	.00¾	.00¾	.00¾

V, W

.04½	.02	Van'da '48	nil		B.01	A.02½	.02½
.49	.11½	Vanguard	30600	.38	.38	.34	.37
34.00	21.00	Ventures .50	8750	23.25	24.00	23.25	24.00
2.65	1.30	ViolaMac	5800	1.40	1.50	1.39	1.46
.29	.07	Virginia	1100	.08	.07	.07	.07
8.60	6.00	Waite A .80	6229	6.10	6.10	6.00	6.10
.84	.04	Weedon M.	1500	.05	.05½	.05	.05
.07	.03	Wendell	1000	.04	.03½	.03½	.03½
20½	.08½	Werner Lk.	3000	.10	.10	.09	.09
.41	.09½	West Ex.	1500	.10	.12	.12	.12
.09	.04	West Mal.	10000	.05	.05	.04½	.04½
.15	.04½	West Min.	1000	.05	.05	.05	.05
.30	.12½	West Surf.	41000	.23½	.22	.19	.19½
.12	.04	Westville	1000	.05	.04	.04	.04
2.60	1.08	Willroy	131450	1.18	1.35	1.20	1.31
1.85	.50	Do. warr.	nil		B.50		.50
.22	.09	Wiltsey C.	26500	.10	.10½	.09	.10
11½	.06	Winchester	4000	.06	.06	.06	.06
19½	.09½	Windfall	4500	12½	11½	09½	09½
.03	.01¼	Wpg. R. Tin	3000	.01¾	.01½	.01½	.01½
1.65	1.18	Wright-Har.	320	1.26	1.30	1.20	1.30

Y, Z

.42	.16	Yale Lead	12100	.17	.18	.17	.18
.12	.06	Yellorex	6000	.08	.08	.08	.08
1.64	.98	Y'ke Bear ▲.02	11036	1.05	1.06	1.00	1.02
1.44	.67	H. G. Young	28350	.79	.82	.77	.81
.08	.03½	Yukeno	4000	.04	.04	.04	.04
.99	.60	Yukon-Cons.	2500	.65	.67	.66	.67
.40	.20	Zenmac	26750	.23	.23	.21½	.22
.35	.15	Zulapa	nil		B.20	A.22	.19

Oil Stocks

Range 1959-60 High	Low	Company & Dividend ($)	▲Sales	Last Mar. 11	Week Ending Mar. 18 High	Low	Close or latest
.27	.14	Acme	2050	.19	.20	.18	.19
1.02	.56	Ajax	nil		B.63	A.66	.66
.12½	.04½	Albedena	40007	.04½	.04½	.03	.03
.61	.38	Alb. P. Sons	15000	.44½	.53	.52	.52
.16	.02¾	Aldina	1000	.03¼	.03½	.02½	.03½
.65	.20	Allied Roxana	1575	.25	.23	.25	.25
5.15	2.10	Alminex	3650	2.25	2.60	2.30	2.60
.45	.02¼	Amalta	10000	.04	.04	.04	.04
.25	.08½	Amer. Leduc	15700	.10¾	.11	.08½	.10
4.10	2.50	Amurex	nil			A2.05	2.50
1.45	.60	Anaconda	19000	.70	.65	.60	.65
.24	.10	Anchor	2000	.11	B.12	A.12	10½
10.75	6.00	Anglo-Am.	400	6.00	6.50	6.00	6.50
2.09	.63	Asamera	29000	.69	.69	.63	.69

B

10.87½	5.40	Bailey-Sel. A	25245	6.30	7.60	6.35	7.25
25.25	16.62½	Do. 5% pf.	1.25	19.5	16.62½	18.00	17.25
		Do. 5¾% pf.					
24.00	16.50		510	17.50	17.50	16.50	17.50
2.00	.96	Banff	6000	.07	1.17	1.06	1.10
.05½	.03	Barons	12200	.04½	.04½	.04	.04
.20	.03	Bashaw	20500	.03½	.04	.03	.03
.09½	.04	Bata	1500	.04½	.05	.04½	.04½
.33	.10	Blue Crown	33815	.27	.33	.24	.31
.85	.15	Bluewater	500	.23	.20	.20	.20
.60	.17	Bonnyville	41363	.20	.25	.18	.20
1.00	.45	Bralsaman	nil		B.40		.45
3.30	1.85	Britalta	9720	2.35	2.60	2.48	2.58

C

1.27	.40	Calalta	21100	.46	.54	.47	.47
35.00	17.37½	Calg. & E. *.10	18190	18.25	20.50	17.75	20.50
4.15	3.25	Calvan	1200	3.25	3.25	3.25	3.25
.74	.45	Calvert	15300	.60	.63	.56	.56
		Canada					
2.35	.99	Can. Oil	34125	1.09	1.25	1.11	1.20
1.05	.22½	Do. warr.	2500	.25	.28	.25	.28
		Can. So. Oil					
1.25	.40	warr.	nil				.40
3.25	2.85	Can. So. Pet.	12350	3.85	4.05	3.65	3.90
		Canadian					
1.60	.90	Cdn. Chiffton	63650	1.03	1.22	1.02	1.16
6.05	2.90	Cdn. Dev.	7483	3.40	3.30	3.15	3.30
2.90	1.97	Cdn. Exp. G	79275	2.35	2.40	2.18	2.30
.10	.02	Cdn. F'tune	200	.02	.02½	.02½	.02½
.62	.23	Cdn. H. Cr.	6450	.29	.36	.30	.36
1.85	.70	Cdn. H'stead	47666	.80	.85	.75	.75
14.75	6.15	Cdn. Husky.	28245	7.25	8.40	7.00	7.85
8.50	2.60	Do. warr.	7665	3.75	4.95	3.70	4.60
12.25	9.50	Cdn. Supr.	6315	10.00	12.62½	10.62½	12.50
2.00	.62	Cdn. Wil'ston	nil		B.70	A1.00	.65
.60	.43	Carleton	nil				.43
.25½	.07	Castle O.	5250	.15	.11	.08	.08
9.20	4.40	Cent.-Del Rio	27731	4.85	5.35	4.70	5.00
1.90	1.02	Charter	6400	1.20	1.15	1.10	1.15
.25	.09½	Clayburn	2500	.13½	.15½	.13½	13½
		Coastal ▲.04	nil				1.60
.60	.30¼	Command	1500	4.30	.55	.55	.55
.41	.09	Commercial	36900	.17	.17	.14	.16
1.75	.75	Commoil	nil		B1.15		1.25
4.00	2.00	Common P.	nil		B2.00	A2.50	2.10

D, E, F

.19	.04	Cons. Ailen	6635	.05	.06	.05	.06
.47	.22	C. Dragon	173600	.31	.30	.24	.34
.53	.38	C. East C.	3000	.42	.42	.40	.40
5.25	2.45	C. Mic Mac	16700	2.90	3.10	2

ANNOUNCEMENT

EXECUTIVE APPOINTMENTS SIMPLICITY PRODUCTS LTD.

C. A. WILSON T. R. REID

Two new executive appointments are announced by Mr. G. Alex Forbes, Chairman of the Board of Simplicity Products Limited, Hespeler.

Mr. C. A. Wilson, formerly Vice-President & General Manager, becomes President & General Manager. Mr. T. R. Reid, General Sales Manager, has been elected to the Board of Directors. Mr. Reid is President of the Canadian Home Laundry Manufacturers Association.

Simplicity Products manufactures a complete line of automatic and wringer washers and dryers.

See 25% Boost in Welland Traffic

Special Correspondence

ST. CATHARINES, ONT. — Traffic on the Welland Ship Canal, last lap of the St. Lawrence Seaway, should move more easily this year.

Workmen have been busy around the clock to complete a series of tie-up walls, which will increase the canal's potential ship passage capacity by about 25%.

Cost of the project is about $5 million.

The Welland's capacity last year was 27 or 28 ships a day, 13 or 14 each way.

The seven tie-up walls, each 1,000-ft. long, are between lock 1 at Port Weller on Lake Ontario and the guard lock at Thorold South.

The walls will permit the movement of a ship into a lock or through a guard gate as soon as the lock is ready to receive it.

Other work done during the winter to improve the canal—which opens April 1 — includes largest maintenance overhaul since the waterway was completed in 1932; and the setting back of the wire rope guard - fenders at each lock gate—to give greater clearance to the high superstructure of ocean-going ships as they pass through the locks.

Aim of the improvements: To increase canal capacity to an absolute maximum without being forced to twin the five single locks at an estimated cost of $150 million.

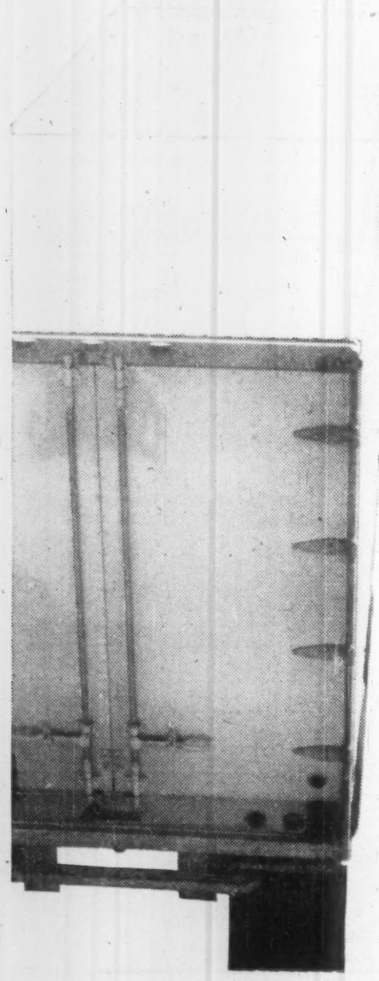
CLARK EQUIPMENT Mobility

A ton more payload than usually hauled

Savings like this are a Clark specialty... a specialty which through lighter vehicle weight, more speed, and better utilization of space helps industry everywhere cut material handling costs. There are other cost-savings in mobility too. We'll be glad to tell you about them.

Clark Equipment Company Buchanan, Michigan

Truck-Trailer • Construction • Material Handling Equipment



Company Reports

Mining

GECO MINES had a net profit of $6,146,024 in 1959 ($5,195,853 in 1958).

President N. C. Urquhart said the increase in profit was due mainly to higher copper and zinc prices and an increase in zinc grade, all of which more than offset a drop in copper grade.

As a result of the U.S. import restrictions on lead and zinc, 4,317 tons of zinc concentrate have been stockpiled at the mine. But Mr. Urquart says there is a "reasonably good outlook" for sale in other countries.

The loan from **Mining Corp. of Canada** was reduced by $5,520,000, leaving a balance of $4,080,000 at the year end. By Feb. 15, 1969, the balance had been reduced to $3,240,000.

Although a total of 1,290,279 tons of ore were milled, ore reserves were little changed, except for an increase in grade.

Underground diamond drilling has established the downward extension of the "C" ore body. Other underground exploration was directed toward opening of the "C" zone east of No. 1 shaft. Drift advance of about 4,000 ft. was completed on all six levels.

INCOME ACCOUNT

Years Ended Dec. 31:	1959	1958
	$	$
Production revenue	21,921,823	20,628,090
Less: Oper. exp.	13,564,470	13,068,489
Operating profit	8,357,353	7,559,601
Less: Loan interest	363,327	667,860
Depreciation	1,226,010	1,123,290
Def. dev.	621,992	570,593
Net profit & surp.	6,146,024	5,195,583
Earnings per Share	$2.05	$1.73
None paid		
Shares o/s at Dec. 31:		
Common, $1 par	3,000,000	3,000,000

CONDENSED BALANCE SHEET

As at Dec. 31:	1959	1958
Cash	$459,344	$521,091
Bonds, cost*	24,250	24,250
Concentrates	5,540,191	4,796,359
Accts., etc., rec.	96,892	121,053
Stores & prepd. exp.	964,183	1,313,274
Total curr. assets	7,085,060	6,776,577
Power deposit	760,509	661,768
Def. dev. exps.	6,874,923	6,811,638
Mining props.	199,238	197,513
Plant, bldgs., equip.	13,673,045	12,830,998
Lots & housing	2,869,450	2,290,310
Less: Deprec.	2,693,793	1,467,782
Total assets	28,797,435	28,300,992
Accts., etc., pay.	341,863	671,444
Prov. for taxes	493,000	493,000
Total curr. liabs.	1,034,863	1,164,444
Loan from Mining Corp.	4,080,000	9,600,000
Capital stock	3,000,000	3,000,000
Contrib. surplus	8,642,937	8,642,937
Earned surplus	12,039,635	5,893,611
*Market value	20,250	21,250
†After w.o. of	1,365,035	743,043
Working capital	6,050,197	5,612,083

OPERATING STATISTICS

	1959	1958
Tons milled	1,290,179	1,286,129
Avg. recovery	$16.99	$16.04
Ore reserves, tons	16,042,500	16,011,200
Grade: Copper, %	1.94	1.79
Zinc, %	4.33	3.71
Silver, %	2.21	1.84

AMERICAN NEPHELINE had a net profit of $130,378 in 1959 ($159,672 in 1958).

Sales increased both in physical volume and in value. But high labor and material costs, selling expenses and discount on U.S. funds more than offset the increase.

President A. L. A. Richardson says company is undertaking careful supervision of operating costs and a re-alignment of selling and research activities to maintain its position in a highly competitive industry.

Nepheline will start to handle its own sales in the U.S. in 1961. To date sales have been handled by a U.S. sales agency.

Of 238,910 tons of ore mined from the Cabin Ridge and Kassh Ridge area, 22% was discarded as waste. Ore reserves were reduced as no development work was undertaken. Reserves now stand at 5,224,300 tons assured and 1.5 million tons indicated.

In outside exploration, Nepheline joined with **Ventures Ltd.** in a probe of 500,000 acres in northern Ontario near James Bay. Nepheline has a 30% interest in the program and pays 25% of the costs, estimated at $250,000 over three years.

CONS. INCOME ACCOUNT

Years Ended Dec. 31:	1959	1958
Sales	$1,894,687	$1,810,098
Add: Inv. increase	11,711	378
Less: Oper. exp.	1,143,822	1,089,123
Oper. profit	722,576	731,353
Less: Depr.	362,815	370,540
Def. dev. w.o.	9,728	10,035
Outside explor.	16,949	
Loan interest	63,846	79,296
Disc. U.S. exch.	79,860	64,010
Prov. for taxes	59,000	67,800
Net profit	130,378	159,672
Less: Dividend	164,000	164,000
Deficit for year	33,622	4,328
Earned per Share	$0.032	$0.039
Paid	0.04	0.04
Shares o/s at Dec. 31:		
Common, 50c par	4,100,000	4,100,000

CONDENSED CONS. BALANCE SHEET

As at Dec. 31:	1959	1958
Cash	$136,922	$366,467
Short-term invests.	635,820	393,035
Accts. rec.	228,756	179,164
Inventories	51,669	39,958
Prep. exps.	29,147	20,475
Total curr. assets	1,083,314	999,099
Supplies	159,189	164,400
Deferred devel.	69,840	78,997
Misc. assets	47,181	51,723
Mining props.	75,499	75,499
Bldgs., equip., etc.*	2,377,388	2,558,273
Total assets	3,711,411	3,927,991
Accts., etc., pay.	267,199	164,657
Taxes pay.	34,522	25,384
Total curr. liabs.	301,721	290,041
Mtge. loans	774,451	994,002
Deferred inc. tax	120,482	133,369
Capital stock	2,050,000	2,050,000
Capital surp.	374,964	374,964
Earned surplus	89,793	85,615
*After depr. of	2,631,633	2,268,817
Working capital	780,593	709,058

KILEMBE COPPER COBALT had a net profit of $154,822 in 1959 (net loss of $580,217 in 1958).

Company retired the balance of $3,789,000 of 5½% debentures that were outstanding. Funds for this came through the sale of treasury shares through a rights offering.

The operating subsidiary, **Kilembe Mines**, had a net profit of $706,763. This was reduced on consolidation with parent's accounts, reflecting in part non-recurring deductions of $191,921, President A. J. Anderson states.

A total of 11,798 tons of blister copper were sold (10,917 in 1958). The average price climbed 5c a lb. to 29.51c (U.S.). Production costs dropped to 18.79c (U.S.) a lb. (19.03c).

In the Eastern mine, current source of bulk of the ore, preparations are under way for shaft sinking to permit three new levels. At the Bukangama deposit tunnels are currently being driven to the ore zone on the 6,300 and 5,900-ft. levels. On the latter the face has been advanced 1,500 ft., about half the distance to the ore zone.

Completion of new treatment facilities this year will raise plant capacity to 77,000 tons of ore a month yielding about 16,000 tons of copper a year.

At present operating rate of about 1,100 tons a month, operations are reasonably profitable with copper near the 30c (U.S.) a lb. level, Mr. Anderson states. The increased capacity should lower unit costs and provide additional measure of safety against a price drop.

CONSOL INCOME ACCOUNT

Years Ended Dec. 31:	1959	1958
Production revenue	$7,356,263	$5,779,137
Less: Oper. exps.	4,882,603	4,534,022
Oper. earnings	2,473,660	1,245,115
Add: Int. rec.	991	2,526
Less: Depr.	1,100,086	716,796
Foreign withhold. tax	29,429	41,440
Amort., deb. disc & exps., net	127,523	96,737
Preprod. defer. etc., w.o.	625,788	434,013
Interest	409,826	554,140
Loss on exch.	18,822	30,763
Minority int.	240,889	146,031
Net profit	134,278	d380,217
Loss		
†Cred.		
Earnings per Share	$0.04	d$0.23
None paid		
Shares outstanding at Dec. 31:		
Common, $1 par	3,877,027	2,504,810

CONSOL COND. BALANCE SHEET

As at Dec. 31:	1959	1958
Cash	$136,105	$153,417
Accts. rec.	74,178	59,361
Copper on hand & in process	261,321	127,085
Metal settlements	234,239	504,531
Supplies	2,172,659	1,890,753
Total curr. assets	2,878,502	2,735,147
Deposit, Deb. Act		132,871
Deferred exps.	134,124	261,067
Prepaid, def. etc. exps.	6,265,747	6,654,449
Mining props.	383,400	419,206
Plant & equip.	13,244,311	10,832,025
Total assets	21,001,334	21,035,365
Accts. pay., etc.	3,179,145	1,056,545
Debt, instal.	3,045,256	800,000
Total curr. liabs.	1,221,131	1,856,545
Long-term debt	2,341,391	9,041,925
Misc. def. chgs.	4,314,514	4,102,629
Capital stock	3,213,027	2,304,810
Contrib. surplus	3,193,887	3,631,865
Redeem. sh. w.o.		90,610
Less: Deficit	2,150,376	2,202,019
After w.o. of	1,342,845	1,002,186
After depr. of	96,578	59,972
*After depr. of	3,641,023	1,896,470
Working capital	41,350,729	878,602

*Excess of current liabilities over current assets.

OPERATING STATISTICS

	1959	1958
Tons milled	519,735	521,922
Ore reserves, tons*	7,371,000	8,188,000
Grade: Copper, %	2.23	2.31
Cobalt, %	0.16	0.18

*Proven and probable reserves only; in 1959 excluding 1,472,000 tons lower grade ore.

PAMOUR PORCUPINE MINES had a net profit of $280,613 in 1959 ($285,513 in the preceding year).

Higher investment income offset an increase in operating costs and a lower price received for gold production. Company received an average of $33.53 an ounce for gold, down from $33.94 in the preceding year.

The loan to **Geco Mines** was reduced to $137,000 at year end and now stands at $109,000.

Exploration diamond drilling found only small extensions to ore zones.

INCOME ACCOUNT

Years Ended Dec. 31:	1959	1958
Metal recoveries	$2,072,279	$2,054,940
Less: Oper. exps.	2,299,584	2,278,916
Operating loss	227,305	223,976
Add: Cost-aid	421,754	422,435
Invest. income	130,709	118,404
Net earnings	325,158	316,863
Less: Depreciation	44,545	31,350
Net profit	280,613	285,513
Less: Dividends	200,000	150,000
Surplus for year	80,613	135,513
Earnings per Share and Dividend Record:		
Earned	$0.056	$0.057
Paid	0.04	0.03
Shares o/s as at Dec. 31:		
Common, n.p.v.	5,000,000	5,000,000

CONDENSED BALANCE SHEET

As at Dec. 31:	1959	1958
Cash & bullion	$464,718	$576,422
Mkt. secs.	1,933,627	
Accts., etc., rec.	58,770	43,529
Cost-aid assist.	164,000	180,000
Demand loan		244,898
Total curr. assets	2,721,115	1,044,849
Stores, cost	367,933	356,642
Invests*	1,374,701	2,792,791
Loans re Geco M.	136,914	322,151
Prep. & def. chgs.	9,884	15,549
Mine property	162,823	162,823
Plant & equip.	225,429	118,816
Total assets	4,898,299	4,813,621
Total curr. liab.	252,253	247,708
Capital stock	1,387,500	1,387,500
Earned surplus	3,259,026	3,178,413
§Market value	1,574,813	
*Market value	1,636,867	3,120,753
▲After depr. of	2,255,905	2,212,197
Working capital	2,168,842	797,141

OPERATING STATISTICS

	1959	1958
Tons milled	637,403	647,127
Average recovery	$3.25	$3.18
Ore reserves, tons	1,607,568	1,605,637
Grade ($35 gold)	$3.68	$3.61

NORANDA MINES had a net profit of $11,433,171 in 1959 ($9,416,558 in the preceding year).

Main influence on earnings last year was an increase of 18¢ in the average price of copper. This increased income both from Noranda's operations and from its investments as subsidiary and associated companies boosted dividends. (Further details p. 31.)

President John R. Bradfield states that earnings would have been over $3 a share, if extra depreciation charges on the Cutler acid plant had not been made. The move to increase write-offs followed announced cutbacks of uranium output in the Blind River area which is served by the plant.

INCOME ACCOUNT

Years Ended Dec. 31:	1959	1958
	$	$
Revenue from prod.	33,879,030	30,374,182
Less: Oper. exps.	19,700,592	16,079,992
Add: Profit re invest. sale	14,320	269,371
Other income	5,720,511	4,293,872
Net earnings	19,913,769	18,857,433
Less: Depree.	7,462,245	4,086,121
Int. on debents.	1,734,596	1,911,522
Res. for taxes	4,650,257	3,593,232
Explor. w.o.	625,000	850,000
Net profit	11,433,171	9,416,558
Less: Divds.	9,959,088	8,959,088
Surplus for year	2,474,083	457,470
Earnings per Share and Dividend Record		
Com.	$2.55	$2.10
Paid	2.00	2.00
Shares o/s at Dec. 31:		
Common, n.p.v.	4,479,544	4,479,544

CONDENSED BALANCE SHEET

As at Dec. 31:	1959	1958
Cash	$2,962,008	$4,305,405
Accts., etc., rec.	13,367,012	5,787,079
Bds. & stks.*	12,936,030	2,210,931
Smelt. & refin. toll	2,700,548	2,239,957
Metal invent.	6,540,341	19,796,196
Tot. curr. assets	38,125,939	24,339,568
Supplies	1,342,854	1,818,962
Mtge. loans	926,203	992,840
Misc. assets	547,169	464,227
Pros. & explr.	330,306	310,894
Inv. in subs.	14,591,097	14,494,517
Other invest'ts	20,837,585	18,696,609
Advances	39,772,664	41,401,493
Mining claims	909,779	909,779
Fixed assets	17,900,480	26,758,868
Total assets	135,184,953	130,187,337
Accts., etc., pay.	3,422,689	2,677,232
Est. tax pay.	3,827,000	3,016,000
Customs ore pay.	9,049,995	6,595,168
S.f. instal. due	1,350,000	500,000
Unclaimed divs.	257,588	262,000
Tot. curr. liabs.	17,907,272	13,050,400
Def. inc. tax	2,918,000	2,790,000
Notes pay.	21,250,000	21,000,000
S.f. debentures	14,438,000	15,798,000
Invest. & cont. res.	3,700,000	5,051,559
Capital stock	11,303,140	11,303,140
Surplus	63,668,541	61,194,458
*Market value	14,137,270	3,672,474
†Market value	35,739,856	32,373,589
§After depr. of	37,684,994	29,061,763

‡Incl. refinery settlements receivable.

Cont. Liability—Guaranty of interest and principal on $1,325,000 debentures of Noranda Copper & Brass.

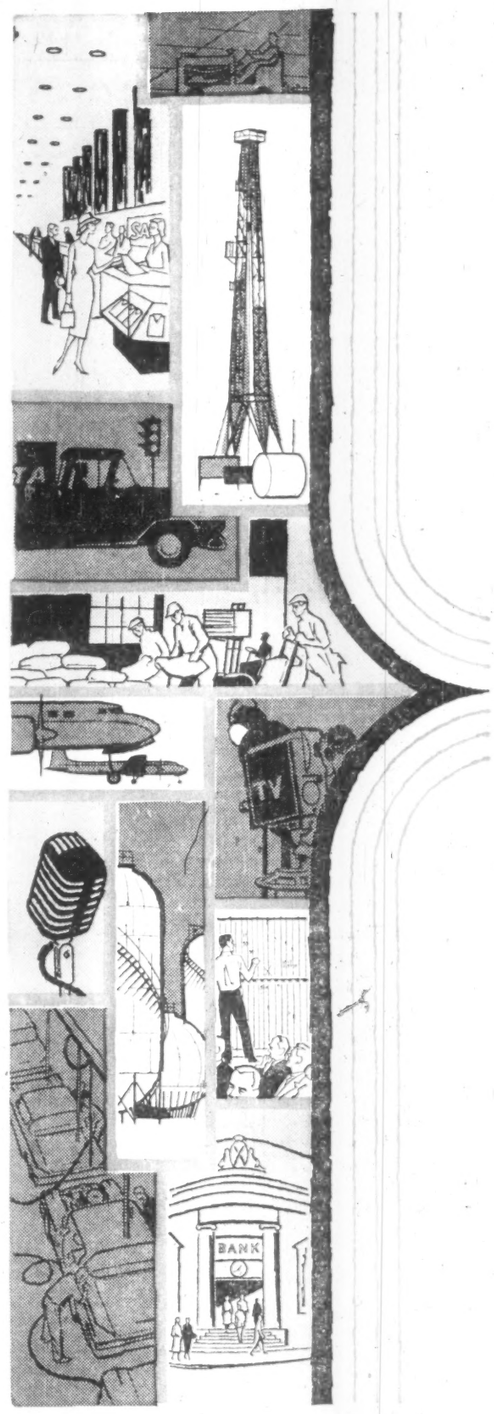
Working capital	20,218,667	11,289,168

OPERATING STATISTICS

	1959	1958
Tons milled	954,823	843,350
Ore Reserves*:		
Sulphide ore, tons	10,010,000	10,010,000
Copper, %	2.21	2.21
Gold, oz.	0.13	0.189
Siliceous fluxing ore, tons	930,000	930,000
Copper, %	0.13	0.13
Gold, oz.	0.12	0.124

*Not including 3,370,000 tons in Chadbourne and No. 5 ore zones.

Tons milled	954,823	843,350



LOOK AROUND YOU

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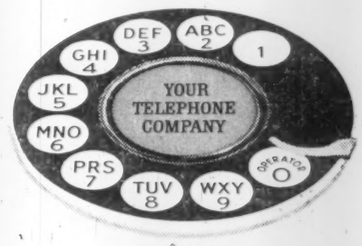

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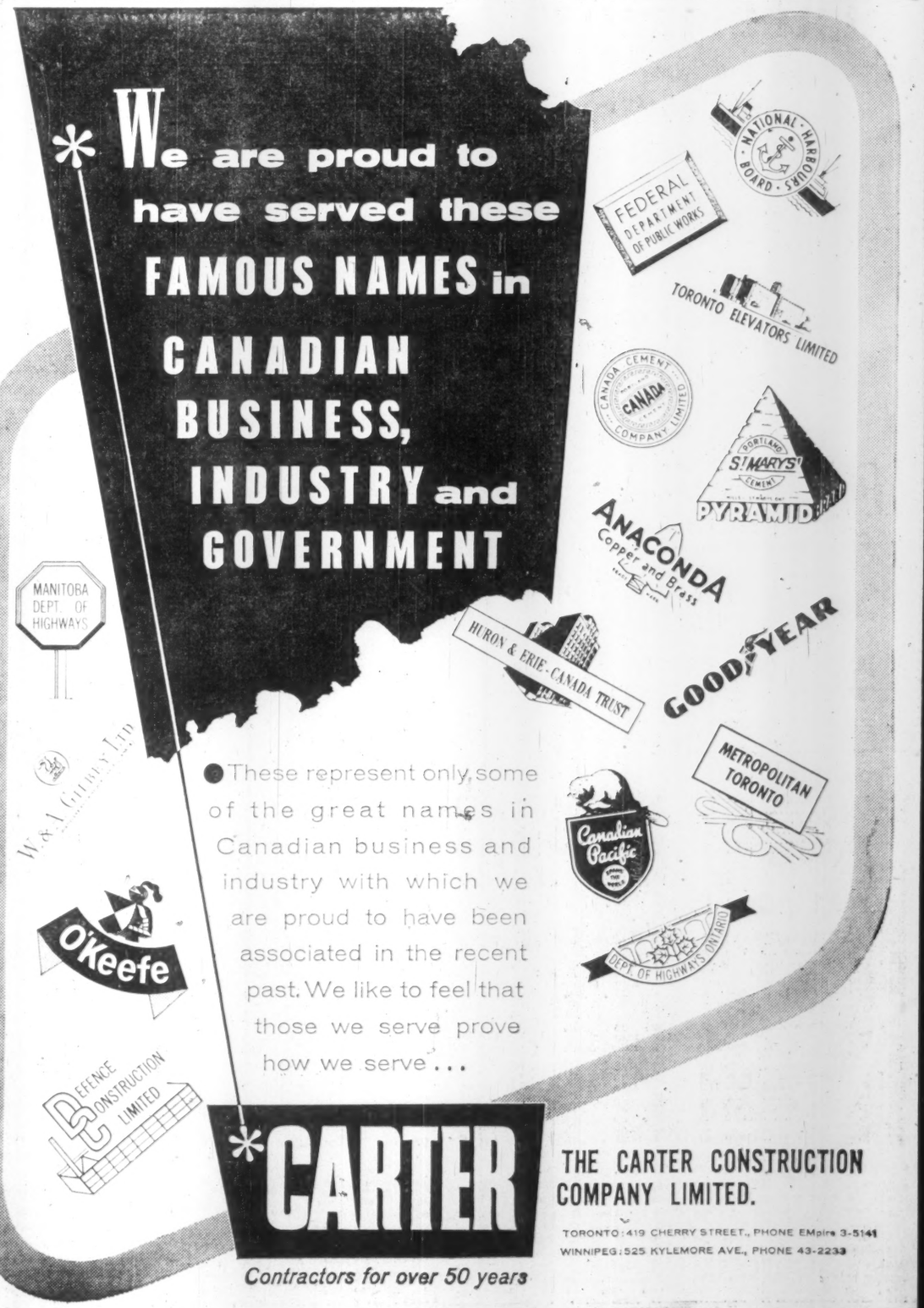

ANNOUNCEMENT

IMPERIAL FURNITURE MFG. CO. LIMITED

ROBERT J. MILLER

Robert J. Miller is appointed Vice President—Sales and elected a Director of IMPERIAL Furniture Mfg. Co. Limited, Stratford, Ontario, manufacturers of Household, Commercial and Institutional furniture sold through Department and Furniture stores across Canada.

Mr. Miller, a native of London, Ontario, joined IMPERIAL in 1948, was sales representative for the Company in Western Canada, Toronto and more recently Manager of Contract Sales. He is a graduate of the University of Western Ontario, Past President of the Stratford Country Club and a Director of the Stratford Rotary Club.

During Great War II, Mr. Miller served as a Captain in the Irish Regiment of Canada.

Costs Pare Leitch Net

A lower operating rate coupled with lower grade ore and higher costs pared profits of **Leitch Gold Mines** in 1959.

Estimated net profit for the year totaled $264,069 or 9.1c a share, down from $406,567 or 14c a share in 1958.

In the year, 36,862 tons of ore grading $33.31 per ton were milled at an average daily rate of 101 tons. In 1958, 113 tons a day of $34.09 ore were milled.

Total costs in the latest year climbed $4.55 a ton to $25.98.

Here are the estimated earnings:

	1959	1958
Tons milled	Tons 36,682	Tons 41,199
	$	$
Production	1,228,052	1,404,617
Other income	49,119	40,370
Operating costs	957,966	883,096
Depreciation	36,637	36,824
Taxes	18,500	118,500
Est. net profit	264,069	406,567
Earnings per share	9.1c	14c

Expecting 2,000 At CIMM Meet

The technical men of the mining industry will meet at the 62nd annual meeting of the Canadian Institute of Mining and Metallurgy.

This meeting is in Toronto and runs from April 24 to 27.

Some 2,000 mining officials from Canada and many areas of the U. S. will hear 95 technical papers and other speeches covering every phase of the industry. A feature will be a panel on present and future energy resources.

Taking Stock

What's going on in the mining and oil markets — the facts and rumors.

By ALEX WILSON

Churning gas and oil stocks still hold the speculative spotlight as mining circles fail to spark interest.

Behind the current wave of interest in gas stocks, the first since 1957, are on-again-off-again rumors of expected decision on gas exports by the National Energy Board.

Traders say that both the rumors and the heavy trading are coming from New York. Almost daily a story circulates that the news will come after the market close. And day after day the surges and sags in the western gas stocks have given traders plenty of scope for action. The interest is now starting to spill into the oil stocks.

As measured by the Toronto Stock Exchange index of western oils, the group has bounced back 11% from the lows of early March.

Best bet still seems to be that the news will come by April 1.

Here is how the rumors have sparked wide swings in price levels in recent weeks:

	Latest	—Last Week— High	Low	Early March
	$	$	$	$
Bailey Selburn	7.65	7.60	6.35	5.95
Calgary & Edmonton	20⅜	20½	17¾	17¾
Cons. Mic Mac	2.70	3.10	2.80	2.75
Cdn. Husky	7.75	8.40	7.00	6.50
Home A	10⅝	11⅝	9.50	8.90
Medallion	2.09	2.20	1.90	1.80
Provo	2.39	2.45	2.20	2.10
Pacific Pete	11½	12	10½	9.55

* * *

Shares of **West Canadian Oil & Gas** backed off to $1.25 as official announcement was made that an offer to purchase had been turned down. The offer was made at a price "substantially higher" than the current market, and rumors sparked a run to $1.84 in February.

Britalta Petroleums at $2.55 is ahead from recent $2.35 after selling its interests in Alberta gas leases. It picks up $1 million cash and $9 million in bonds for the land.

* * *

AMONG THE MINES—The Rio Tinto group of uranium companies are still firming as cash flow estimates ranging upward of $11.50 a share continue to pour from analysts' pens. **Algom** has come back to $12.75 from its reaction to $9.20 on the merger announcement. **Northspan** at 90c and **Milliken** at $1 have both come back over 20c and **Pronto** has climbed 55c to $2.94. At current prices, a call on **Rio Algom** is being valued at prices from $6.69 through Pronto to $7.73 through Algom.

As expiry date creeps up, the warrants to purchase **Consolidated Denison** at $15 a share are trading at 1½c. High this year was 39c. The warrants expire April 1. Denison common at $10⅛ has been holding above $10 lately after the reaction to $8.30 when the merger with **Can-Met** was announced. Can-Met bondholders have now approved the merger. In the last pre-merger move, Denison shareholders meet this week.

* * *

Confusion on **Kilembe** puzzles traders as they watch a usually quiet stock trade hectically and swing down to a low of $1.55 from a recent $3.75. It later recovers to $2.12. Activity centres on the American Stock Exchange where Kilembe was listed recently.

One facet is a move by parent **Frobisher** to lighten its interest by selling 300,000 Kilembe shares to U. S.-backed underwriters and granting options on an additional 500,000. The 300,000 underwritten shares were at a $3 price. One block of 100,000 has already been taken up, a second block will be taken soon and the remainder have another 60 days. If options are taken up, effect would be to lighten Frobisher's interest to 61% from 79%.

In any case, whatever hit Kilembe (including a lot of wild stories about revolutions and short raids) was thrown in Wall St. Frobisher officers and Bay St. traders are still puzzled by the gyrations. Frobisher stock reflects the Kilembe action, drops to $1.60 from $1.75.

* * *

Here's the latest dope on the big Quebec-Labrador iron developments as culled from a summary of the annual report of the U. S. **M. A. Hanna Co.: Iron Ore Co. of Canada**, in which **Hollinger** and **Labrador** share, produced 12.6 million tons in 1959, up from 7.8 million tons but a little under 13 million peak in 1957. It shipped 13.1 million tons including stockpile ore. Another interesting fact: Carol Lake project is being expanded to produce seven million tons of iron concentrates annually from original six million planned. Townsite construction has started and a pilot plant has been working since last summer.

A dock opened in Rotterdam by Hanna Mining and Dutch interests handled 1.1 million tons of iron ore. This dock is to help IOCO sales to Europe. Meanwhile Hollinger shares drop to $23⅞ from $24½ while Labrador climbs to $23¼ from $22⅛.

* * *

Orchan Mines flipped to $1.14 early in the week as rumors circulated that short sellers were being called for delivery. At mid-March the short position at 199,600 shares was down 76,900 shares. It has since slipped back to $1.08.

Can Erin still leads the pack among the shorts with total declared position of 304,200 shares. At 86c, it is off from recent 94c.

Jack Waite Mining holds at 32c as plans are announced for an aerial survey of its holdings in northern Quebec. The work is being carried out by **Canadian Javelin** which recently became the largest shareholder.

Consolidated Mosher continues to attract sporadic bursts of interest and strength in Mosher shares is reflected by **Hard Rock Gold Mines** which was last reported to hold a substantial interest. Both are part of the **Little Long Lac** group of companies. Mosher shares at $1.64 flip ahead from a recent $1.38. Hard Rock at 14½c is up from 12c. Mosher is being developed with the aim of supplying ore to the neighboring **MacLeod-Cockshutt** property. Officials have indicated that production should start next year.

Drills Probing For Molybdenite

Winter drilling on two widely separated molybdenite prospects is being hurried as break-up threatens.

In the Preissac township property in northwestern Quebec being drilled by **Dumont Nickel Mines,** shaft sinking is being considered. Drilling has indicated an orebody extending over length of 1,600 ft., still open at both ends.

Average width is 10.5 ft. and the indicated tonnage is 560,000 tons grading 0.40% molybdenite. Deep drilling is now being started.

In northwestern Ontario, **Evenlode Gold Mines** is pushing a drill program to depths of 300 ft.

Ten holes have now been completed on the main zone which extends over strike length of 1,050 ft. and is still open at both ends.

The molybdenite occurs in a quartz vein carrying gold values up to 0.08 oz. per ton. Preliminary estimates place grade of the zone at between 0.70% and 0.85% molybdenite over a width of 4 ft.

Own Stadacona? Now They Do, Now They Don't

Control of **Stadacona Mines (1944)** is changing hands rapidly these days.

First the long-time owners of the former gold producer sold out their control March 10. Buyer was a lawyer acting for undisclosed interests.

This switch was followed by this week's suspension from trading by the Toronto Stock Exchange because of failure to file necessary statements and obtain exchange approval. (The stock trades at 6c, was as high as 19c last year.)

Second control change came when Roy Robertson, the former president, announced that the old board was buying back the stock, would make the necessary filings as soon as possible "in the hope that the Toronto and Canadian Stock Exchanges may see fit to lift the suspension."

Then a third change of control could occur.

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AND THIS is the sort of portfolio planning that our Research Department (without additional charge) is prepared to handle for both trial and regular members of our clientele at any time. Buy, buy more, hold, sell or stop-loss — whatever line of action you should follow, remember that our advice and recommendation can be counted on to be completely unbiased, completely objective. The Forecaster staff has no ax to grind, no commissions to collect, no surplus inventory of stocks to unload from the shelf; we are in the advisory business only.

FROM the standpoint of current gas-oil developments, therefore, suggest prompt attention to any and all situations in the industry that you either own or contemplate owning at this time. Take a final look at such present or proposed holdings, double checking on whether they really do meet the twin criteria of above-average companies participated in at the best possible price. In your first letter, send us your entire portfolio for review and thereafter phone, write or visit the staff for a personal conference whenever you wish.

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ANNOUNCEMENT

APPOINTED GOVERNOR

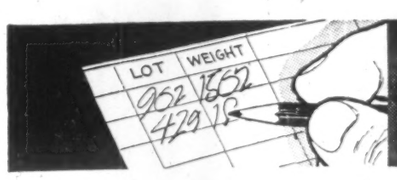
HAROLD R. LAWSON, F.S.A.

The Honourable Frank M. Ross, Chairman of the Board of Governors of Mutual Accumulating Fund, Mutual Income Fund and Mutual Bond Fund, announces the appointment of Harold R. Lawson to the Board. Mr. Lawson is President of The National Life Assurance Company of Canada and a Director of Glen Falls Insurance Company.

ELECTED DIRECTOR

JOHN A. RHIND

A. K. G. Reid, President, Mutual Funds Management Corp. Ltd., announces the election of John A. Rhind to the Board of Directors. Mr. Rhind is Vice-President and Managing Director of The National Life Assurance Company of Canada. Mutual Funds Management Corp. Ltd. manages Mutual Accumulating Fund, Mutual Income Fund and Mutual Bond Fund.



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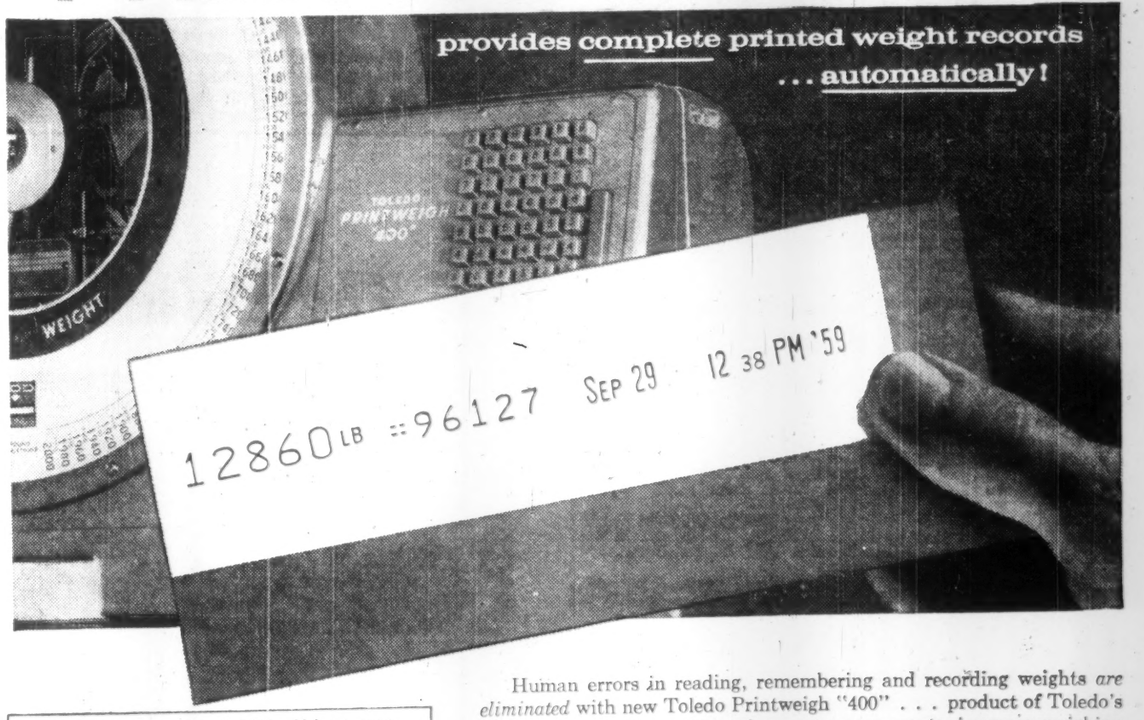

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FINANCIAL STATEMENT, December 31, 1959

ASSETS			LIABILITIES	
Cash in Banks and Office		$ 7,938,859	Reserve for Claims and Claim Expenses	$ 47,832,085
Investments:			Reserve for Unearned Premiums	40,737,831
United States Government Bonds	$21,355,021		Funds Held under Reinsurance Treaties	8,054,829
Other Bonds	64,916,391		Reserve for Commissions, Taxes and Other Liabilities	9,234,062
Preferred Stocks	9,085,400		Capital	$ 7,260,000
Stocks of Subsidiary Companies	4,133,396		Surplus	46,791,523
Other Common Stocks	41,773,909		Surplus to Policyholders	54,051,523
Total		141,264,117	Total	$159,910,330
Premium Balances in Course of Collection (not over 90 days due)		5,762,417		
Accrued Interest		746,866		
Other Admitted Assets		4,198,071		
Total Admitted Assets		$159,910,330		

Securities carried at $8,690,698 in the above statement are deposited as required by law. Bonds and stocks owned are valued in accordance with the requirements of the National Association of Insurance Commissioners; if valued at market quotations, Surplus to Policyholders would be $45,639,559.

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Buried Canal Move Freight At 50c Ton?

From Our Own Correspondent

WASHINGTON—A proposal has been made for an incredible-sounding underground canal running from Lake Erie to the Ohio River.

It would be designed especially to move iron ore from Canada into the steel-making heart of the U. S.

The freight cost on such a route would be about one sixth less for hauling iron ore, according to the proponents.

Rep. Wayne L. Hays of Ohio brought the idea to the attention of the Congress. He noted the plan has been put together by Ernest Humphrey, Ohio engineer, and T. L. White, nationally-known engineer who helped design the New York aqueduct.

Under the scheme, not only would iron ore be shipped via the underground canal, but all types of goods.

It would run 87 mi. from the Ashtabula region to the East Liverpool area and would be a particular boon to the steel-making areas of the Ohio Valley and greater Pittsburgh region.

The cost is estimated by Humphrey at $200 million. There have been various studies made in the last 20 years for an overland canal from Lake Erie to the Ohio River, but these studies put the cost at $3 billion

Proponents of the underground canal call their project a "tunal" — a combination of the words tunnel and canal.

The channels would provide two lanes of water, each 13 ft. wide and 18 ft. deep, moving at a speed of 5 mph.

Barges to travel this route would be 10 ft. wide, 50 ft. long and 9 ft. deep, and would displace 3,000 cu. ft. when loaded.

Forty small pumps would keep the water moving evenly and no locks, dams or other complicated equipment would be involved.

There would be openings every four miles in the "tunal" to provide access to the barges.

The supporters of the idea say it would cost 50c to haul a ton of freight in the "tunal" compared with $3.44 on a railroad.

One difficulty with the project is that it probably would involve taking water out of Lake Erie and thus lowering the levels of the Great Lakes.

Canada - U. S treaty agreements would become involved in this and probably Ottawa would protest any such lowering.

Laidlaw Lumber Sales Gain After Record 1959 Volume

Consolidated sales of **R. Laidlaw Lumber Co.**, privately owned Weston, Ont., wholesaler, reached a new high in 1959, President R. W. L. Laidlaw reports.

Increase of $3 million was biggest year-to-year gain in company history. Total sales were not disclosed.

This year's volume is running ahead of 1959, a company official told FP.

Last year's sales were aided by increased purchases for **Cox, Long & Co.** in the U. K. and domestic sales from Laidlaw's Montreal office.

"The five-year downward trend in gross margins temporarily reversed itself during the year and margins may stabilize at about their present level, although intense competition continues," the president said.

In 1959, company closed its Toronto retail sales division. Toronto yard is now a wholesale outlet.

Outlook for 1960 is mixed, Mr. Laidlaw said, "with a reduction in housing starts a certainty and an increase in all other types of construction a probability."

Wholly owned subsidiaries are **E. L. Bruce Co., Oakville Lumber Co.**, and **Great Northern Woods Co.**

Irving in Battle For Water Supply

From Our Own Correspondent

SAINT JOHN—A legal battle is shaping up over supply of water to the **Irving Pulp and Paper Ltd.** plant.

Industrialist K. C. Irving, with **Kimberley-Clark Ltd.** has had a huge expansion program under way for the past three years.

The mills will ultimately need 30 million gal. of water a day.

The city is completing a $1 million pipeline to supply 18 million gal. a day.

In 1958 an agreement was reached with the Irving mill under which the city was to supply the 30 million gallons in 1960.

The city has declared the contract not valid.

Mayor D. L. MacLaren said that to complete the job would result (under terms of the agreement) in jumping of citizens' water bills by 25% to 30%.

Company claims the agreement is valid and that it went ahead with its expansion on that basis.

Estimates of the cost of providing the additional water run upward from a minimum capital outlay of $3 million.

Dams at the water supply in Loch Lomond must be raised, property will have to be purchased and the lake levels raised.

Engineers say the upshot will be that the city will have an extra 45 million gal. a day of water available.

An Invitation to Montrealers

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FP-160

Company Reports

Building Materials

ASBESTOS CORP., Montreal, net profit of $3,057,379 for 1959 was 26% lower than 1958's net of $4,134,769.

Income taxes of $1,619,000 ($609,000 in 1958) reflected the first full taxation year at the Normandie mine.

Sales volume increased 5% with the greatest increase recorded in asbestos cement fibres.

Ore milled increased to 3,332,955 tons from 3,207,103 tons in 1958.

Normandie mine operated at capacity, British-Canadian shut down for two months and King-Beaver worked at 68% of capacity.

Total ore reserves amounted to 103.8 million tons.

Capital improvements included additional fibre packing machinery at Normandie mine and additional bagging facilities at British-Canadian. Construction of a fibre storage shed at the King mill was almost completed.

Total of 27,215 ft. of diamond drilling was completed. Underground development at King-Beaver totaled 3,735 ft. Development of further open-pit ore is underway.

INCOME ACCOUNT

Years Ended Dec. 31:	1959	1958
Net earnings	$6,370,973	$7,093,159
Less: Deprec.	1,600,000	2,000,000
Expl. exp.	94,594	349,390
Taxes	1,619,000	609,000
Net profit	3,057,379	4,134,769
Less: Dividends	2,520,000	3,150,000
Surplus for year	537,379	984,769

Note—For tax purposes $1,268,000 in 1959 and $1,226,000 in 1958, depreciation in excess of amount recorded in the accounts has been claimed. The tax saving of $419,000 in 1959 and $405,000 in 1958 has been deferred.

Earnings per Share and Dividend Record:		
Common: Earned	$1.69	$2.29
Paid	1.20 + 0.20	1.05 + 0.70
Shares o/s as at Dec. 31:		
Common, n.p.v.	1,800,000	1,800,000

CONDENSED BALANCE SHEET

As at Dec. 31:	1959	1958
Cash & govt. bds.	$5,125,462	$2,386,283
Accts. rec. less res.	1,379,980	1,284,644
Inventories:		
Asbestos	2,843,626	2,640,748
Materials, supp.	1,324,337	1,427,812
Prep. exp.	222,730	136,724
Total curr. assets	10,896,155	7,876,211
Special funds†	5,238,133	5,334,598
Fixed assets*	20,152,857	21,022,842
Total assets	36,287,145	34,233,651
Accts. pay. & accr.	1,321,246	841,768
Prov. for taxes	1,083,038	465,401
Total curr. liabs.	2,404,284	1,307,169
Deferred tax credit	3,938,000	3,519,000
Gen. reserve	14,000,000	14,000,000
Capital stock	5,512,714	5,512,714
Distributable surp.	1,000,000	1,000,000
Earned surplus	432,147	8,894,768
*After depl., depr.	18,673,770	19,291,741
†Res. for cap. expenditures and employee mortgages.		
Working capital	8,491,871	6,569,042

Public Utilities

LAKELAND NATURAL GAS LTD., Kingston, Ont., reports that Sept. 30, 1959, has been determined as the end of construction period. Company has changed its method of accounting and has capitalized all costs incurred during construction, less revenue from gas sales to Sept. 30, 1959.

Number of customers being served increased to 2,222 from 26 at the end of Sept. 30, 1958. Company carried $554,000 in appliance accounts.

Contract has been signed with **Canada Starch Co.** to provide fuel requirements for its Cardinal plant. Deliveries will run up to 4.5 million cu. ft. per day.

Capital expenditures totaled $2,137,291, mainly for construction of service lines. Approximately 23 mi. of mains in Haldimand and Cramahe townships were laid. A lateral line was extended to Winchester, Ont.

A franchise was acquired to serve Hallowell township in Prince Edward county.

Thunder Bay Gas Ltd. purchased 9,450 shares at $1 per share and 56,250 shares at $2 per share, increasing the outstanding shares to 1,452,766.

Shares were issued to Thunder Bay under an agreement in connection with the franchise for the city of Cornwall.

CONDENSED BALANCE SHEET

As at Sept. 30:	1959	1958
Cash	$199,925	$191,102
Notes rec.	261,084	1,352,638
Govt. bonds*	590,000	2,499,633
Accts. rec.	618,563	668,233
Prepaid exps.	4,967	123,473
Inventory	851,407	87,086
Total curr. assets	2,325,946	4,922,165
Unamort. debent. disct. & fin costs	281,113	295,807
Gas plant under const.	7,620,377	5,483,686
Total assets	10,877,436	10,701,658
Bank loan (sec.)	293,000	500,000
Accts. pay & accr.	225,466	166,530
Int. accr.	83,528	85,132
Contr. holdbacks	.....	290,083
Cust. deposits	.....	25,171
Total curr. liabs.	601,994	1,066,916
Deferred income	101,991	22,755
Long-term debt	6,682,200	6,731,100
Capital stock	1,452,766	1,387,066
Contrib. surplus	1,288,485	1,232,235
Capital surplus	‡	‡179,952
Earned surplus	‡	81,034
Working capital	1,623,952	3,855,249

‡Consisting of int. chgd. to construction of $243,917 and int. earned of $354,559 less deb. int. expense and amort. of deb. disc. and financing costs.

‡Transferred to gas plant under construction.

Note—Co. was engaged in the construction of its natural gas distribution system to Sept. 30, 1959, and all costs incurred, less revenue from gas sales ($419,017), have been allocated to gas plant under construction.

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ANNOUNCEMENT

GENERAL MANAGER

RALPH J. LAVALLEE

The appointment of Ralph J. Lavallee as General Manager and Secretary of Walker Metal Products Ltd., Windsor, is announced by Fred N. Heuchan, the company's president. Formerly Secretary and Comptroller, Mr. Lavallee succeeds Harvey J. Miller, who recently became Walker Metal's Executive Vice-President. L. B. Crouchman continues as Treasurer and Purchasing Agent.

The Pulse of the People

It seems an eternity between dates, so Larry and Joan squeeze in an extra hour together when they meet at lunch time on the campus at the University of Toronto.

Love is a many splendored theme

Poets write about it. Singers croon about it. People never tire of reading about it. Love is eternal; sometimes blind. Yet, nothing in life is so fascinating as love's young dream. The story of these happy young people in love was published recently in Weekend and for a very good reason. ■ ■ ■ People are keenly interested in reading about other people and Weekend is definitely edited for people—millions of them. Our editorial thinking revolves around people and our editors are dedicated to their job of providing people not only with the best reading but the reading they like best. That is why Weekend and its French language edition Perspectives enjoy the reader interest of more people than any other magazine in Canada.

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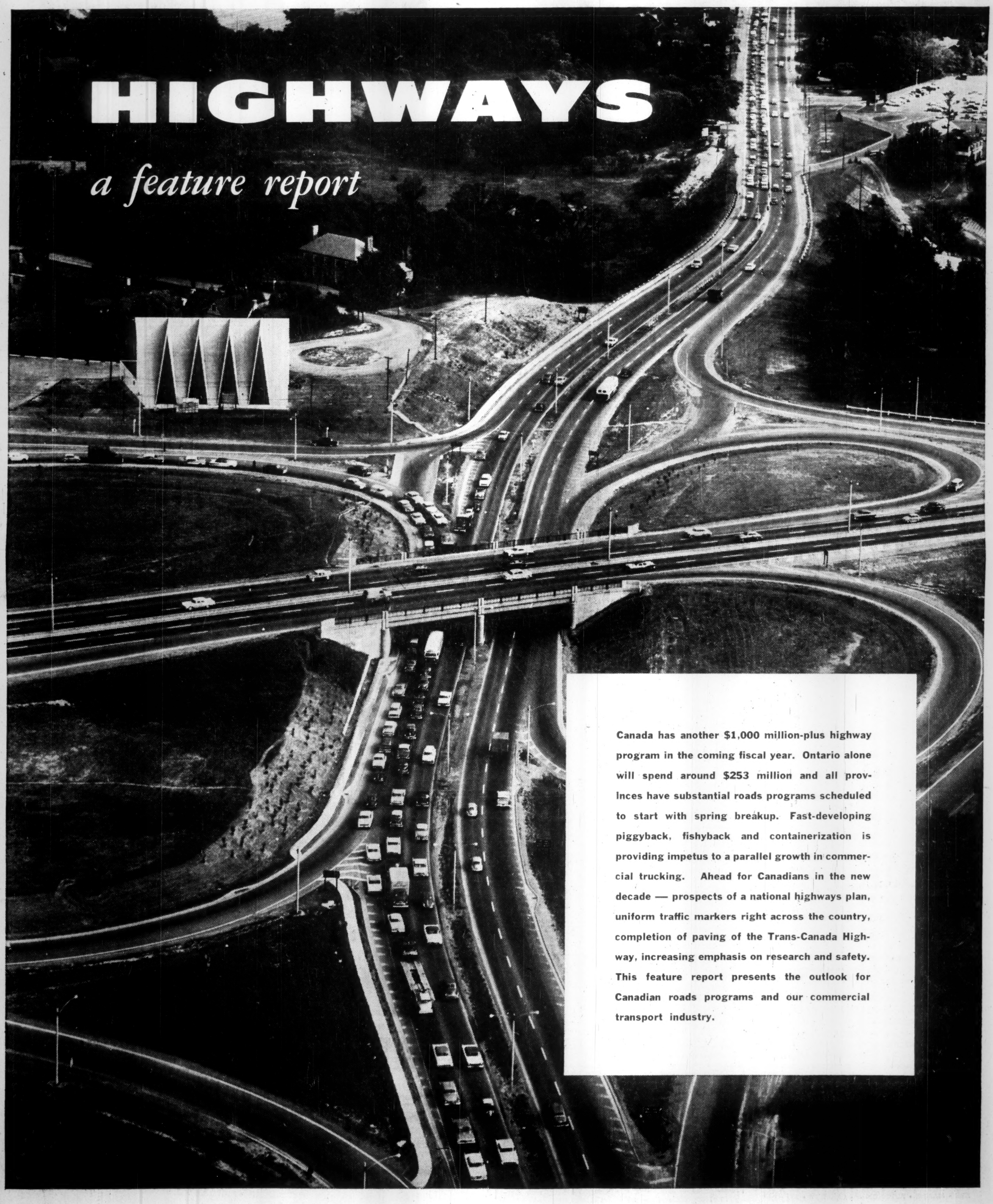
*Effective September 10th, 1960.

The Financial Post

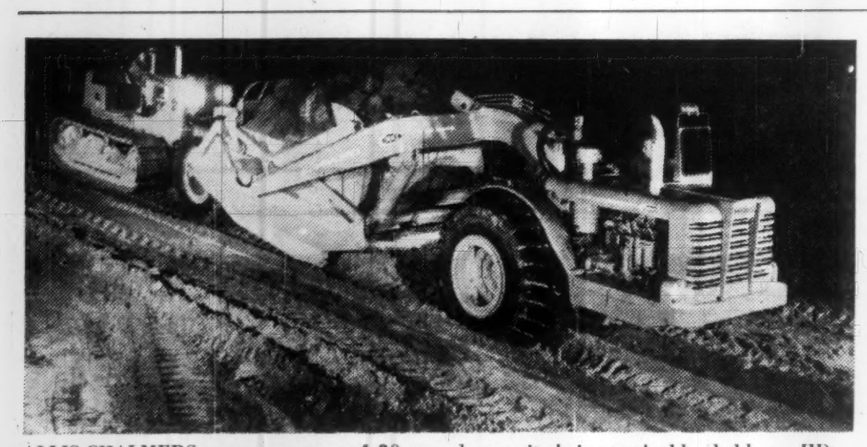
Vol. LIV | Twenty-five Cents an issue, Eight Dollars a Year | Publication Office: Toronto, March 26, 1960 | Member of Audit Bureau of Circulations | No. 13

HIGHWAYS

a feature report



Canada has another $1,000 million-plus highway program in the coming fiscal year. Ontario alone will spend around $253 million and all provinces have substantial roads programs scheduled to start with spring breakup. Fast-developing piggyback, fishyback and containerization is providing impetus to a parallel growth in commercial trucking. Ahead for Canadians in the new decade — prospects of a national highways plan, uniform traffic markers right across the country, completion of paving of the Trans-Canada Highway, increasing emphasis on research and safety. This feature report presents the outlook for Canadian roads programs and our commercial transport industry.



ALLIS-CHALMERS motor scraper of 30 cu. yd. capacity being pushed-loaded by an HD-21 crawler tractor with torque converter drive.

Statistics

How DBS Aids Industry

By L. S. EVANS,
Head, Road Transport Unit
DBS

The Dominion Bureau of Statistics publishes a variety of reports on all phases of road transport including statistics on highway mileage and expenditures, motor vehicle registrations, fuel consumption by motor vehicles, urban transit, intercity passenger bus operations, motor carrier operations, truck traffic data and motor vehicle traffic accidents.

Information on the trucking industry is published in two separate series:

- **Motor carrier — this includes financial, property and employee data** collected on an establishment basis (that is, collected from individual firms).
- **Motor transport traffic — this includes statistics of mileage traveled, tons of goods carried,** ton miles performed, fuel consumed and various other traffic data collected by means of a sample survey of registered vehicles.

A number of developments have taken place during the past year which will improve the accuracy and usefulness of road transport statistics.

With the assistance of the accounting council of the Automotive Transport Association of Ontario, together with advice from provincial road transport officials and other trucking associations across Canada, DBS has made a comprehensive revision of its classification of accounts for motor carriers.

Beginning with 1960, therefore, the collection of motor carrier financial statistics will be on an up-to-date and more meaningful basis.

This new classification will also simplify the task of trucking companies of completing DBS motor carrier forms and the resulting statistics should be more easily compared with individual company operations.

There have been equally significant changes in the motor transport traffic statistical series, which is based upon a sample of truck registrations selected at quarterly intervals in each of the 10 provincial motor vehicle branches. Vehicles are chosen without regard to ownership, make, year or model.

The sample is stratified by gross vehicle weight in order to obtain the most reliable results with a minimum number of vehicles.

The owners or operators of vehicles chosen are sent questionnaires and asked to record the activities of the vehicles for a specified seven-day period. The information requested includes total miles traveled; the amount of fuel used; the kind and amount of goods carried; the origin and destination of highway trips; and, in the case of for-hire trucks, the revenue received.

The statistics received at the bureau are expanded to represent all trucks in each province and a full quarter of the year. Quarterly results are then added to obtain annual figures.

The motor transport traffic sample included over 100,000 vehicles in both 1957 and 1958. This involves a tremendous job of mailing, scheduling, correspondence, checking, calculating and compiling.

DBS is therefore constantly searching for improved methods and techniques in order to obtain the most reliable and useful results at the lowest possible cost.

Frequent changes have been made in the collection procedure since the survey was initiated.

Beginning in 1958 the vehicles selected in each quarterly sample were divided into three sections, with one section being surveyed in a specific week of each month.

Hence, instead of the statistics being based on four survey weeks (one each quarter), they are now compiled from 12 weeks' experience during the year.

This provides a much better cross-section of road freight activities with no additional work imposed upon the vehicle operators.

Early last year DBS made an analysis of its survey results and found that vehicles up to 5 tons gross vehicle weight comprised 50% of the sample registrations in Canada but accounted for only 6% of the total ton miles performed.

In comparison, vehicles of over 10 tons gross vehicle weight equaled 26% of the sample but accounted for nearly 85% of the ton-miles.

The sample selection ratios were revised, therefore, so as to increase the number of large trucks and to substantially reduce the number of smaller vehicles in the survey.

These changes have permitted DBS to sample a smaller proportion of the total truck population in Canada while at the same time they have made it possible to compile more reliable and more comprehensive results including a more detailed breakdown of commodities transported over road.

Another change in the motor transport traffic survey is the introduction of a leaflet questionnaire which will be easier and quicker to complete than the previous booklet form.

This will also enable DBS to reduce handling costs. At the same time, motor transport traffic returns are being placed on punch cards to facilitate the compilation of more detailed statistics.

Still another development in this series will be the introduction of a quarterly publication. Such quarterly reports will provide more current information and will indicate the extent of seasonal fluctuations in highway freight transport in Canada. The first quarterly report will be issued for the third quarter of 1959 and should be available by the middle of the year.

DBS is now considering the collection of statistics on passenger automobile traffic. Such a survey would be somewhat similar to the trucking survey inasmuch as it would be based upon a small sample of vehicles, the operators of which will be asked to report for selected periods of time.

In 1958, there were 4,719,000 motor vehicles registered in Canada of which 3,573,000 were passenger cars.

In 1919, there were 24 people for each motor vehicle, by 1928 there were only nine and by 1958 there were only 4 persons per motor vehicle.

Stimulated by the growth in the motor vehicle population and the demand for road transport, tremendous highway construction has resulted. Between 1928 and 1958, surfaced highways in Canada have been extended nearly fourfold from 64,120 to 251,992 mi.

In 1928, $57.9 million were spent on highway construction and maintenance. This type of expenditure rose to $772.7 million in 1958, representing a twelvefold increase.

In relation to population, these highway expenditures increased from $6 per capita in 1928 to $45 in 1958. A large portion of this increase is, of course, attributable to the increasing costs of construction and the changing value of the dollar.

Although the number of passengers carried by air lines expanded over three and one half times from 1949 to 1958, this increase was off et by a decline of almost 40% for rail and 60% for intercity buses with an overall drop of more than 50% for all public passenger carriers combined.

Preliminary national estimates of the motor transport traffic survey indicate that the average number of truck and truck tractors performing normal freight transportation services in 1958 was 863,000.

Almost a third of these vehicles were registered in Ontario and more than half were registered in the central provinces of Ontario and Quebec.

Of the total Canadian truck transport population, 5.9% were for-hire carriers, 23.6% were private intercity trucks, 36.1% were private trucks operated predominantly within urban areas, and 34.4% were farm trucks.

Approximately three quarters of these trucks and tractor-trailers had a gross vehicle weight of five tons or less, while only 4.5% of the vehicles were over 15 tons gross vehicle weight. In contrast, only 10% of for-hire vehicles were five tons or less and 37% were over 15 tons.

A special tabulation of these trucks by model shows that 44% were pickup or express vehicles, 16% were panel or sedan delivery, 11% were platform, stake or flat-deck and approximately 9% were box types. All other types amount to 20% of the truck transport population.

In for-hire **intraprovincial** operations, vehicles over 15 tons accounted for 49% of weight of goods carried and 79% of net ton miles. The average weight carried for this group of vehicles was 12 tons, average length of haul, 83 mi., and revenue per ton mile, 6.8c.

However, the for-hire vehicles over 15 tons engaged in **interprovincial** and international operations carried an average weight of goods of 13 tons over an average length of haul of 493 mi., for a revenue per ton mile of 5c.

Mine products accounted for 47% of the weight of goods carried intraprovincially by all for-hire vehicles but only 13% of net ton miles. The average length of haul for these products was 14 mi. On the other hand, while manufactures and miscellaneous products represented only 26% of the weight of goods carried by these vehicles, the net ton miles of this commodity group amounted to 49% with the average length of haul being 95 mi.

In the interprovincial and international movement of commodities by for-hire trucks, manufactures and miscellaneous accounted for 48% of the goods carried and 45% of the net ton miles with an average haul of almost 500 mi.

The trucking industry has expanded spectacularly since 1945 and today accounts for approximately 11% of the total intercity ton miles performed and about 46% of the tons of goods carried by all types of carriers. This growth has largely been stimulated by the industrialization of the Canadian economy.

Road freight carriers have probably benefited more than the other types of carriers from the industrialization of the Canadian economy.

The technical features of motor carriers make them particularly suited for the short and medium distance hauls of finished and semi-finished products of Canadian industries which tend to be located relatively near market centres.

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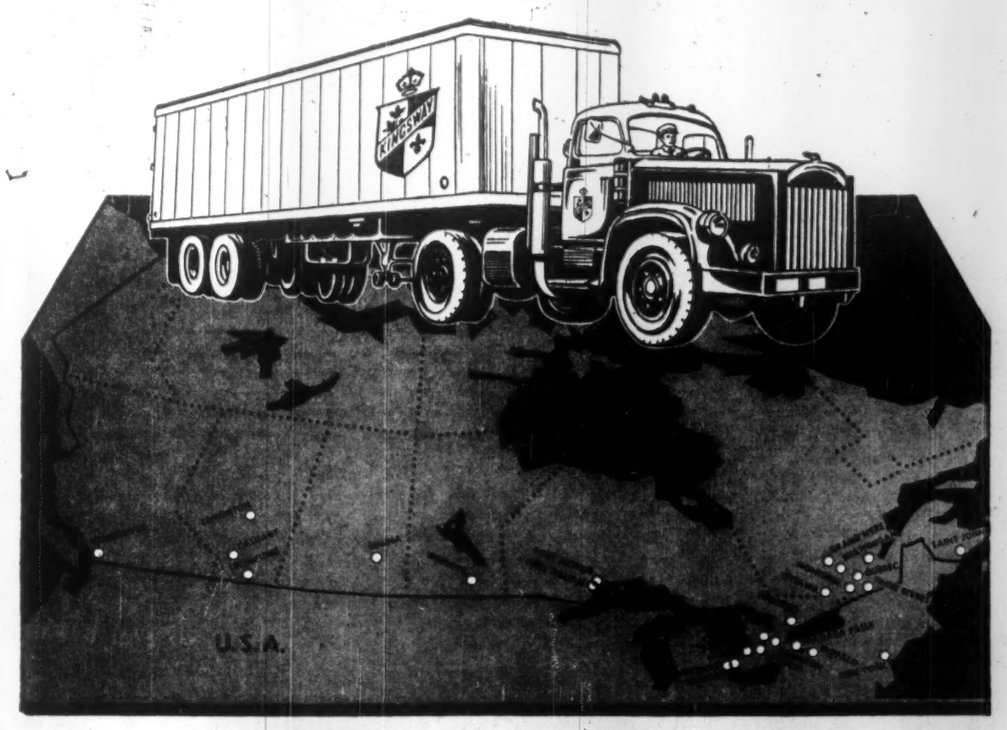

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Trim Budgets

Push Big Road Plans

By FORBES GILBERTSON

While there are indications of a slowing in the rate of increase in highways expenditures which has been going on since the war, major programs are continuing.

In the coming fiscal year, federal, provincial and municipal highways authorities will spend around $1,157 million on construction and maintenance of Canadian highways, roads and streets.

Ontario will head the list again with expenditures estimated at around $253 million.

In the year ahead:

Not as fast a rate of increase but big budgets every year to handle accelerated increase in highway traffic.

The present period of "tight money," with governments at all levels taking a hard look at expenditures to see where cuts can be made, is a major factor in a slower rate of increase in roads spending.

Future plans won't allow any big new construction and available money will be alloted for essential work.

Canadian Good Roads Association, spokesman for highways authorities across Canada, suggests, that highway expenditure, at least for the next while, is entering a readjustment period.

The reasons:

Current budget total is the peak of the steady upward trend of road spending since World War II.

But present increase rate of 6.9% is below the increase rate in the postwar years.

Two main reasons given for this:

- **Completion of large capital expenditure** on toll facilities.
- **A leveling off in expenditures** on intercity highways which have shown great improvement in the past few years.

Trimmings are out but the development of good basic highways program stays.

For this year anyway.

Highway budgets will let provinces continue with existing long-term plans for road and street improvement.

But it looks as though expansion in federal government road outlay of past few years will be curtailed this year.

Biggest pressure is on local governments.

Intercity highway construction manages to keep up with vehicular traffic but local governments are bogged down in the welter of fast-growing urban traffic.

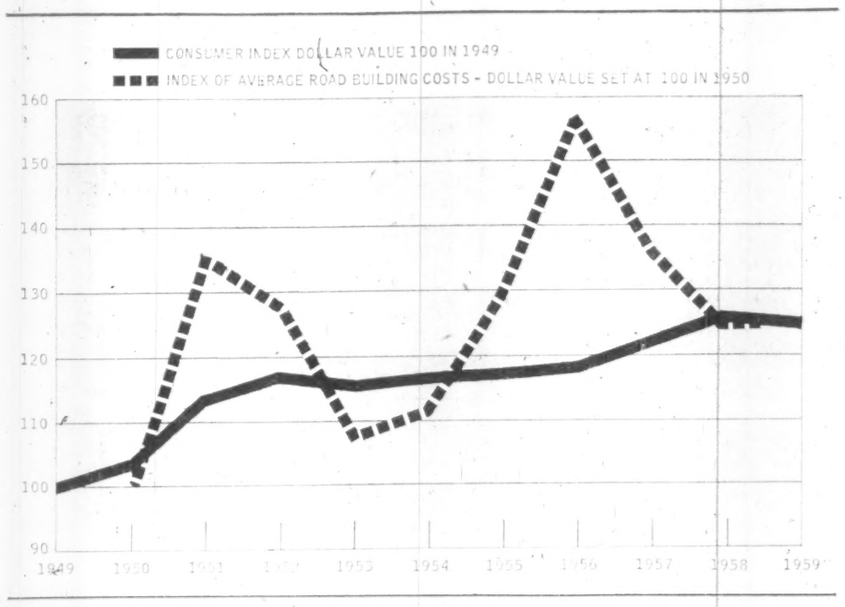
Finding the money for roads programs is more difficult still in the present tight money period.

In the 1959-60 season, bad weather didn't help highway construction. There were major disruptions of highways programs right across Canada.

Result is that there's a big carry-over of construction work into the new fiscal year.

A major success pointed out by CGRA:

The peaks and valleys of construction budgets of 10 years ago have been licked substantially by long-term planning on the part of provincial highways departments.



The Trans-Canada Highway: Due to expire at the end of 1960, only two gaps are expected to be unfinished.

One is the 87-mi. gap from Revelstoke to Golden in British Columbia where snow avalanches, and unexpected rock excavation problems have slowed the timetable.

The other is the Agawa to Marathon stretch north of Lake Superior which may be finished if weather and other factors are favorable in the coming construction season.

The trucking picture:

With 4.9 million motor vehicles on the Canadian roads—a figure that has doubled since 1949—Canada's car and truck manufacturers expect a good, although perhaps not a record year, in 1960.

Truck production is showing a solid 25% gain over 1959 to date, and sales should easily exceed the approximately 80,000 units of last year.

Automobile sales probably will fall somewhat short of last year's all-time record of approximately 427,000 cars.

There were 3,750,000 cars and approximately 1,150,000 trucks licensed in Canada last year.

That's one vehicle for each 3.4 persons; one passenger car for every 4.6 Canadians.

They travel an estimated average of 7,900 mi. a year each.

Or—to work it out another way—there are 11 motor vehicles for every mile of road, whether it's paved highway or back concession dirt or gravel road.

Canada's manufacturers of commercial trailers — pole trailers, vans, and bulk carriers represent a steadily growing industry which is keeping pace with the development of good highways and more trucking.

Piggyback's growth has given the industry a real impetus and, since the piggyback movement is really only getting into its stride, it represents an area of real growth for trailer manufacturers in coming years.

Better roads which means more trucking, more bulk handling of an increasing number of products, fishybacks, are all going to give impetus to the industry.

Most manufacturers have expanded their plants within the past two years. There's an increasing use of aluminum to cut down the weight of trailers.

While 1960 started off somewhat slowly, manufacturers report, it's expected to at least equal 1959 in shipments.

In 1958, about 3,200 commercial type trailers were shipped, valued at around $20 million.

In 1959, the figure was around the 4,000 mark with value approximately $27 million.

The industry has shown steady growth since World War II, looks forward optimistically to increasing expansion in the years ahead.

Not included in the above figures, of course, are such things as house trailers and mobile homes, boat trailers, etc.

The outlook:

- **There's increasing demand** for a national highways policy for all of Canada. Such a plan, elastic enough to fit local conditions, would ultimately give the country a well-organized system of highways and roads on a national plan and save untold thousands of dollars.
- **Electronic computers** are going to play an increasingly important part in helping to analyse highway data, saving time and, in the long run, money, and bringing even greater efficiencies into the whole road-building industry.
- **There will be big expansion ahead** by the railways into piggyback, with steady growth coming in fishyback and containerization.
- **With increasing loads** on trucks and better roads, tire companies are improving designs of tires all the time to meet changing conditions, shooting for high tensile and impact strength, fatigue resistance, etc.
- **In the next 10 years**, there will be eight million motor vehicles on Canada's roads, twice as many as today.
- **At least 40,000** new drivers will be licensed in Canada each year.
- **And, with all this**, increasing emphasis on safety factors by car, truck, tire manufacturers and safety organizations across the nation.

Raise Weight Limit in B.C. To 72,000 lb. on all Roads

Truckers using B. C. highways are now permitted to carry heavier weights than any other Canadian province.

Trucks and their loads up to 72,000 lb. can now use any highway, and, on certain main highways, the loads may go up to 76,000 lb., the same as in California.

This is because B. C.'s main highways are becoming better each year.

No other province in Canada permits 76,000 lb. loads.

Ontario, for instance, is 70,000 lb.; Alberta, 72,000 lb.; New Brunswick, 56,000 lb.; Newfoundland, 20,000 lb., and Manitoba, 72,000 lb.

Commercial vehicles in B. C. are now licensed on a gross vehicle weight basis.

British Columbia, on March 1 this year, was the second-last province to make this change.

Quebec is the only province without such licensing.

The license fees in B. C. are less, in most weight groups, than the average across Canada.

Owners may declare a gross vehicle weight for license purposes of not less than 150% of the unladen weight and not more than that allowed by the regulations.

In Alberta and some other jurisdictions, they must license on a prescribed gross vehicle weight.

As a new privilege, owners may now obtain a refund on the unused quarters of a license year when trading vehicles.

Previously, this was not permitted.

Farm licenses are not transferable, except to another farmer.

Tolerances have now been provided, which make it possible for trucks to proceed where no danger to roads, bridges, or the traveling public is indicated.

Previously, tolerances were not granted on axle-loading of trucks, and loads had to be shifted to meet requirements.

A new schedule of overweight fees has been placed in effect, based on the amount of overload carried, and distance traveled.

Previously, these permits for any overload and any distance were obtained for $2, and frequently term permits were issued for this small fee.

These trucks are now paying charges more comparable to the extra weight they carry.

The original oversize fees, which were found to be too severe, have now been revised to cover cost of administration only.

At present, a single trip permit costs $3, no matter how much oversize the load is, or distance moved.

Term permits up to 30 days are $10 per truck and cover any number of trips.

Trucks crossing highways are required to take out an annual permit costing $10.

A large number of B. C. highways, and sections of highways, have recently been added to the list which permits a vehicle to operate with a length of 60 ft., and height of 13 ft., 6 in.

B. C. truckers, naturally, did not take too kindly to the new government taxes and regulations.

However, there are more trucks on the highways each month.

Of 120,000 commercial vehicles in B. C., only about 1,500 are more than 58,000 lb. However, trucking is becoming big business in British Columbia and is rapidly changing the pattern of freight transportation.

There is, for instance, no freight now transported by direct steamer between Victoria and Vancouver.

It's all loaded into trucks, using the Vancouver Island Highway, between Victoria and Nanaimo, and steamers between Vancouver and Nanaimo.

This is one of the reasons the **CPR** has lost all interest in winter steamer service between Victoria and Seattle, and, next winter, will take off its one-a-day Victoria-Vancouver service.

As a result of this, the huge CPR sheds in Victoria, once humming with freight activity, are now barren. The CPR now operates Victoria-Vancouver freight service with trucks, and the Vancouver-Nanaimo shop service.

When the B. C. government's new ferry service between southern Vancouver Island and the lower mainland gets going in a few months it is expected to cut into the freight business between Nanaimo and Vancouver.

British Columbia has become a vital link in freight service between the U. S. proper and the new State of Alaska.

Every day enormous trucks, bound from California, to Fairbanks, roar over B. C.'s main highways. That is one of the reasons B. C. is doing its best to build highways not too far different from those in California, Oregon and Washington, although, in this province, there are few four-lane highways outside the metropolitan areas.

Commercial vehicles in B. C. are, in due course, expected to pay about 20% of the cost of construction and maintenance of all B. C. highways—about $20 million a year.

Fuel tax rates for commercial vehicles are the lowest in Canada.

Gasoline per gallon tax in B. C. and Alberta is 10c, in Ontario and Quebec 13c, in Nova Scotia and Newfoundland, 17c.

Diesel tax in B. C. is 12c gal., in Alberta 10c gal., in Ontario 18c gal., in Nova Scotia and Newfoundland 17c gal.

The government's new Department of Commercial Transport is now getting into its stride.

It was set up at the 1959 session of the legislature.

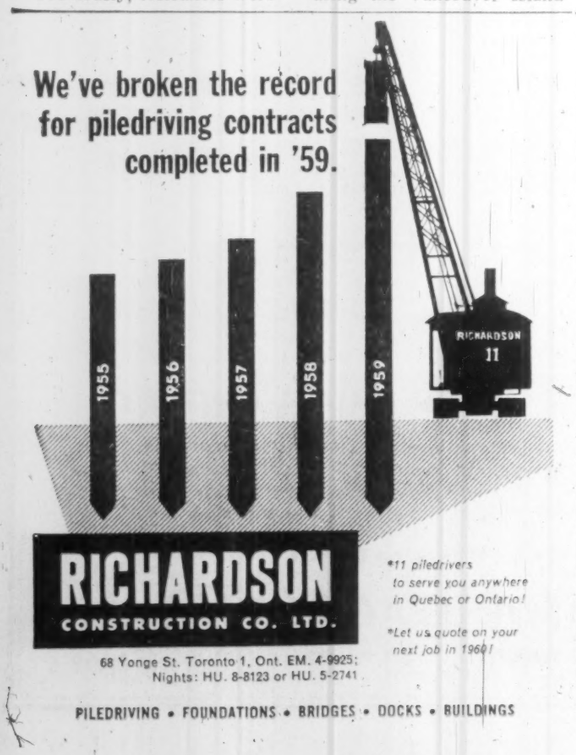
The department is bound, in the future, to be one of the larger departments of government, with a terrific impact on the community and economic life of the entire province.

There may come a time when traffic control may come under this department.

It's not the government's intention to "soak" the trucking industry, "but to see that it pays its fair and proper share" of building and maintaining the B. C. highway system.

This baby department of government, in the fiscal year starting April 1, will spend $608,000.

Construction of weigh-stations will account for $120,000, and salaries and wages for the weigh-scale branch will amount to $342,000.



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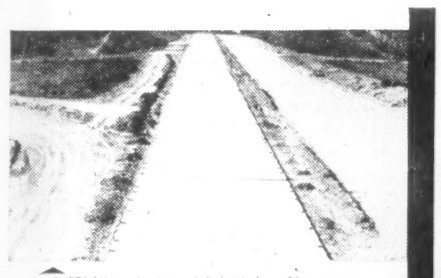
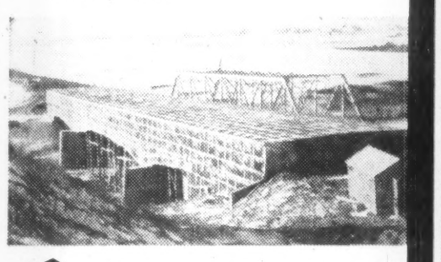
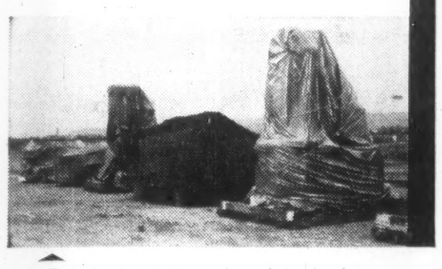


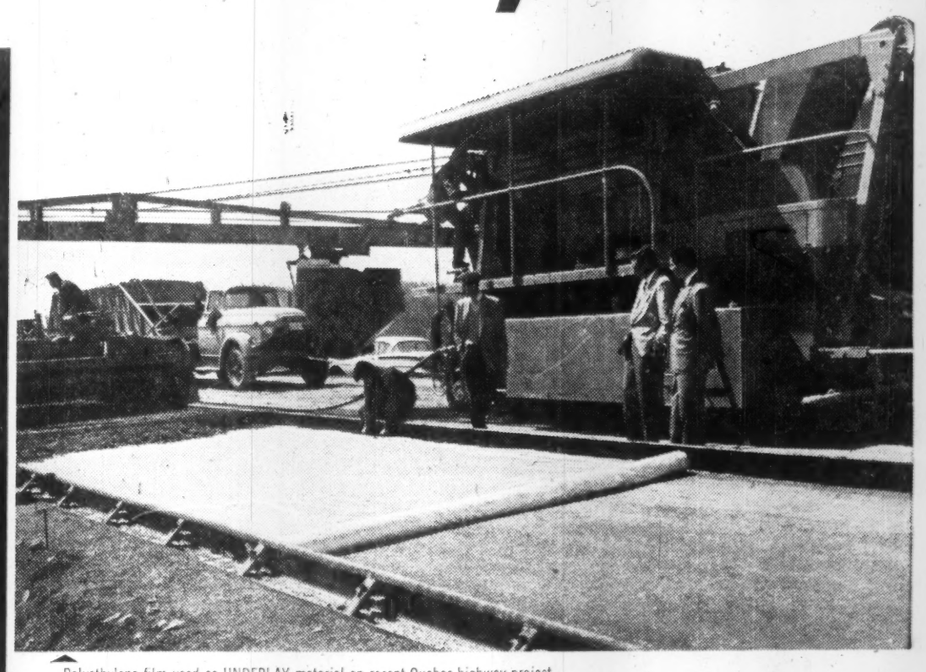
OVERLAY application of Polyethylene film on new highway surface. This film is also used to save construction time in protecting windrows of asphalt mix from rainy weather.



Encasing this Alberta highway bridge project with Polyethylene film permitted uninterrupted construction during severe winter weather.



Protection of construction equipment in transit and on the job is another practical use of Polyethylene film.



Polyethylene film used as UNDERLAY material on recent Quebec highway project.

Modern Road Construction puts the unique properties of Polyethylene film to work

Film made of "Union Carbide" Polyethylene is helping to build tomorrow's highways.

The properties of this flexible film provide new highway construction methods, such as: Underlay Material, illustrated above, to prevent concrete absorption in gravel base, as well as retaining concrete moisture to provide a stronger cure. Polyethylene film is also used as a "curing blanket" for newly-laid concrete. The blanket holds the moisture in the concrete, allowing it to set properly. The film also provides protection against damaging weather.

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Fatal Accidents Across Canada

Prov.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	1959 Total	1958 Total
Nfld.	2	2	1	2	3	2	5	2	4	3	4	3	33	42
P.E.I.	0	1	0	1	0	1	8	1	2	2	3	4	23	18
N.S.	13	1	4	8	4	10	15	14	14	10	12	9	114	135
N.B.	6	9	7	8	6	8	10	13	6	7	8	11	99	124
Que.	32	27	44	39	68	76	88	81	85	88	58	56	742	692
Ont.	67	45	60	50	76	71	105	107	96	131	96	102	1,006	973
Man.	3	7	8	5	14	8	13	18	15	13	7	10	121	99
Sask.	2	1	4	8	9	19	17	18	20	11	13	3	125	120
Alta.	6	12	12	8	16	21	16	24	20	25	22	18	200	241
B.C.	13	6	16	26	19	25	30	35	24	31	23	21	269	246
Yukon, N.W.T.	0	1	0	1	0	2	1	2	1	0	0	0	8	1
1959	144	112	156	156	215	243	308	315	287	321	246	237	2,740	2,691
1958	182	138	155	186	195	252	257	296	279	283	251	201		2,675
	*	*	-	*	-	*	-	-	-	-	*	-	+2.4%	

Fatal accidents increased in 1959 by 2.4%.
*The months of January, February, April, June and November showed improvement over 1958.
The provinces of Newfoundland, Nova Scotia, New Brunswick and Alberta improved their 1958 record.
These figures will not balance with complete accuracy because final DBS monthly adjustment figures will not be available for some months.
Source: Canadian Highway Saftey Council.

CGRA: Sets Highway Standards

One of the most widely noted facts about Canadian highways is that they are almost completely lacking in national perspective.

The Trans-Canada Highway agreements are the sole attempt by the central authority to give a national coloration to Canadian highways.

What national characteristics highways and highway transportation have may be attributed largely to the activities of the national good roads association.

The Canadian Good Roads Association has been the principal meeting place for the numerous road-building agencies.

The national association reorganized in 1950 for what it regarded as the impending challenge of the 50s.

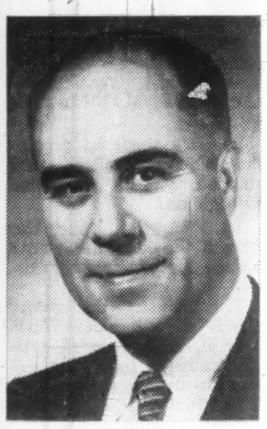
Because the absence of a national system of roads and of a national highways policy, it was the only forum where road-building agencies could meet to exchange notes, thresh out problems and formulate mutual policies.

The association encompasses within membership both government and industry.

Therein lies much of its strength.

It is a peculiarly Canadian institution. Elsewhere, notably in the U. S. the numerous functions performed by this association are discharged by a number of different organizations, public and private.

From inception in 1914 until 1950, when it was rooted up and replanted, the association actively and vocally championed the cause of better roads for private motorists. It had no industrial membership.



FRED M. CASS, president, CGRA.

NORMAN H. BELL, chairman, operating committee, CGRA.

It now has 750 corporate members.

The tremendous postwar surge of traffic and the development of commercial highway transportation confirmed the wisdom of the association in broadening its membership and its functions.

The result of CGRA's work has directly and patently influenced the course of road legislation and road building in Canada during the 50s.

Most recent and most graphic evidence of its activities:

The establishment and publication of a set of uniform traffic control devices standards.

These standards — for traffic signs, signals and markings — have been accepted in principle in every province in Canada.

They are the results of more than three years' work.

The committee on uniform traffic control devices for Canada was sponsored by CGRA and the Canadian Section, Institute of Traffic Engineers.

Federal, provincial and the major municipal governments were represented on this group, in addition to several national organizations.

In all, more than 300 volunteers are involved in the work of the association.

They are from every region and from every field of enterprise: contracting firms, manufacturers, governments, equipment dealers, suppliers, publishers, and refineries.

Board committees and subcommittees draw membership from legislators, technologists and the businessmen. A board of directors gives over-all direction to CGRA activities, supplemented by an operating committee.

A technical advisory committee directs technical activities of CGRA and, responsible for a wide range of subject matter, are committees on bridges and structures; construction and maintenance; economics; finance and administration; municipal roads and streets; planning and design; safety education; soils and materials; pavement evaluation; traffic and operations; scholarship awards; AASHO road test.

The collective results of these groups' activities has been a widening knowledge among Canadian legislators and technologists of highways affairs not only throughout Canada, but abroad.

The CGRA secretariat itself has two engineers on staff and has undertaken publications and studies that have provided the road-building industries with material and data not otherwise available.

Included in these compilations are an annual study of highway finance, survey of road research projects underway in Canada and a study of highway engineers' salaries.

The annual convention of the association is the biggest gathering of road officials during the year. But the numerous committees meet throughout the year and work proceeds around the calendar.

Major items now on the committees' agendas:

- **A nation-wide evaluation** of highway pavements through the co-ordinated investigation of provincial highway departments.
- **Establishment of geometric design standards** for highway and street construction.
- **Participation in and distribution** of the data and results of the $22-million AASHO road test in the U. S. through an engineer - observer attached to the test and a Canadian committee.
- **Co-operation in a survey** of uniform classifications of motor vehicles and the compilation of regulations governing motor vehicle operations in Canada.

Studies on regulations and classifications now provide the statistical bases for several regular Canadian studies and compilations.

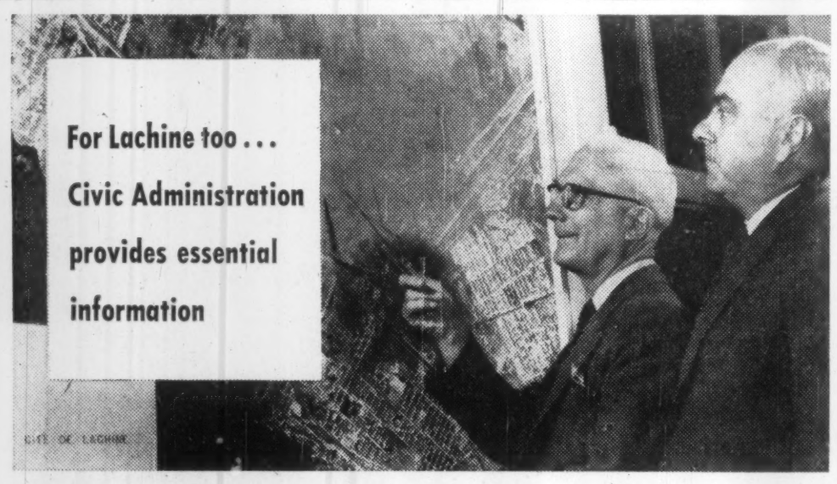
A uniform road and streets classification, for example, prepared by the CGRA economics, finance and administration committee provides the basis for the official DBS publication of road and street mileage.

A scholarship program administered by CGRA has provided the road-building industry with many highly skilled engineers and economists during the past eight years.

The association administers scholarships donated by industry for postgraduate study in some phase of highway technology.

As for the past several years, CGRA is again offering for competition six postgraduate scholarships.

Without any indication that the federal-provincial relationship in building and maintaining highways will change drastically in the years immediately ahead, the role of CGRA in providing a forum for the road-building interests, will not diminish. Rather, there is every prospect that its responsibilities will grow.



The City of Lachine, Quebec, is a predominantly French-speaking community bordering on Montreal, Canada's largest city. Completely independent, but faced with unique municipal problems created by the proximity of her large neighbour, Lachine officials read "Canada's National Municipal Magazine" with keen interest.

Here is what important Lachine officials say about Civic Administration:

City Manager and Director of Finance Rene Laberge—"I receive 'Civic Administration' with pleasure and very great interest. Our residential and industrial development requires a wide knowledge of municipal operation and by consulting this magazine, we are able to benefit from the methods and experience of other municipalities. I never leave on a business trip without taking the latest issue of this publication."

City Engineer A. J. Deslauriers—"I believe that 'Civic Administration' rates first place among all municipal magazines and its importance is always increasing. As chief engineer of the city, I have often referred to this publication for information necessary in my department and besides, it keeps me posted on notable events taking place in other municipalities."

According to independent survey, 22,800 municipal personnel read Civic Administration in Canadian municipalities. Monthly circulation of 13,500 copies covers 4,288 municipalities—an annual $2 billion market. Like Lachine officials, these readers look to Civic Administration for accurate, up-to-date information on a wide variety of subjects.

In an ideal editorial climate, your advertising is read by those you must sell in this steadily expanding field—the municipal and provincial officials who share the job of providing local services . . . including roads and streets, bridges, parking and traffic facilities, water, sewage and sanitation, electrical distribution and lighting, public safety and recreation.

Write for data on this major market today.

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Civic administration

481 UNIVERSITY AVE. • TORONTO 2, ONTARIO

A MACLEAN-HUNTER PUBLICATION

U.S. Group To Meet In Toronto

The growing stature of Canada to the U. S. motorist-tourist was made evident recently by the choice of Toronto for the annual American Automobile Association National Touring Board meeting.

According to Frederick T. McGuire, Jr., president of the American Automobile Association, Canada is the greatest tourist attraction for the U. S. traveler.

Mr. McGuire and other members of the AAA National Touring Board met in Toronto in March, marking the first time the organization has held a meeting outside the U. S.

He said other AAA boards will be encouraged to hold meetings in Canada.

Appearance of the touring board in Canada has been interpreted by the 600,000-member Canadian Automobile Association, an AAA affiliate, as showing the growing importance and stature of Canada in the touring industry.

For some years, the Canadian Automobile Association, through its 16 affiliated clubs, has offered AAA members "back home" treatment in Canada.

The AAA member has become accustomed to being pampered by his automobile club. By the same token, CAA members have come to expect the same treatment whether at home or abroad.

The CAA-AAA marriage-of-services assures members that no matter where they are in each other's countries, they get uniform treatment.

Besides the AAA affiliation, the CAA is allied with the International Automobile Federation and the International Touring Alliance. This guarantees members home club service abroad.

Operating 40 offices across Canada, the 16 CAA clubs offer a host of services.

ROWLEY J. HASTINGS, president, CAA.

Touring Canada or the U. S. is made easy for club members by "triptiks" — a series of small strip maps showing detailed routings on highways and through cities.

The triptiks and travel literature also list approved accommodation along the route. These "approved" hotels and motels are constantly checked by field men for rigid standards set by the association.

Along with routing supplied by clubs, members can also have accommodation booked in advance of their trip and save worry along the way.

Clubs report increased inquiries to their travel personnel about European motoring. They were not caught short on information.

Up-to-date reports are received by CAA clubs on routes, accommodation and road conditions in order to give their members the best service possible.

Club members going abroad with cars, or renting cars overseas, are supplied with all documents necessary for a comfortable trip.

Emergency road service, provided 24 hrs. a day, is available to CAA members anywhere in Canada or the U. S. A booklet, supplied by their club tells the towing company's name, address and phone number.

Through the CAA office, members are represented at the national level. **Legislation governing taxation likely to effect CAA members is quickly covered by the association.** Member-clubs keep an eye on provincial and municipal taxation and licensing.

Growth of the clubs both in size and stature is indicated by the number increasing their facilities. In some cases members have voted building programs to get the facilities their club needs to operate efficiently.

CAA clubs predict they will be one million strong within a short time.

A brief presented by the CAA to the federal government asking a national conference on roads and streets predicted eight million automotive vehicles on Canada's roads in the next decade, twice as many as today.

With current trends pointing in their favor, the CAA should have a big slice of the increase.

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ONTARIO MOTOR LEAGUE CAA AAA

EVERY HOUR OF EVERY DAY

THE ONTARIO MOTOR LEAGUE

Founded in 1907

The Only Association of Motorists in Ontario:—

1. organized on a non-profit-making basis, and returning all revenues to members in the form of service.
2. working continually for road improvement.
3. erecting and maintaining thousands of direction and warning signs on secondary roads throughout the province.
4. continually representing automobile owners in official conferences with Municipal and Provincial authorities regarding traffic regulations.
5. which in co-operation with Government and Municipal authorities, lacks financial or other ulterior motive in placing at the disposal of the authorities its experience and knowledge of traffic problems.
6. actively participating in Highway Accident Prevention Work and co-operating in such work with Provincial and Civic authorities.
7. associated with the Canadian Red Cross Society and the St. John Ambulance Association in establishing, and with the St. John Ambulance in the operation of Highway First Aid Posts and Patrol Ambulances for the care of persons injured in traffic accidents.
8. co-operating with the **American Automobile Association** in facilitating International Motor Touring, and through its relationship with the United States Automobile Clubs generally, promoting Tourist Travel to Canada from the United States.
9. **affiliated with the Canadian Automobile Association, the American Automobile Association, the Royal Automobile Club and the Automobile Association of Great Britain and through Membership in the International Touring Alliance, with a world-wide chain of recognized automobile clubs.**

Personal Advantages of Membership:—

EMERGENCY ROAD SERVICE—More than 800 (OML) Official Emergency Road Service Stations in Ontario, and thousands of them throughout Canada and the United States respond to the "can't start," "out of gas," "flat tire," "stuck" in snow, sand or mud on public roads and similar calls of members to the extent of many scores of thousands annually.

LEGAL ADVICE—by the League's solicitors on all matters arising out of the ownership or operation of members' motor vehicles.

LEGAL DEFENCE—by the League's solicitors, includes payment of legal fees up to $500.00 for defence in Ontario courts in case of accident. Members defended when charged with breaches of the Highway Traffic Act. Assistance given in settling summonses.

INSURANCE—Personal Automobile Accident benefits, $2,000.00 (cumulative to $3,000.00) paid for loss of life, sight or limbs. Weekly benefits of $25.00 for loss of time up to 30 weeks ($750.00) resulting from automobile, truck, farm tractor or other farm vehicle accident.

TRAVEL DEPARTMENT—The recently enlarged Travel Department of the Ontario Motor League is incomparably the best equipped, manned and informed travel bureau of the type in Canada. It daily receives by wire reports on continental road conditions. It continually plans for members' motor tours anywhere on the North American Continent. For overseas trips it arranges International Documents for cars, reservations for car hires, and issues International Driving Permits.

ROAD BOOK AND ROAD MAP OF ONTARIO—The other road books and road maps of the area are nothing like as comprehensive as are the official Road Book and Road Map of the Ontario Motor League.

CAR EMBLEM—The Ontario Motor League badge is a symbol of distinction indicating that the owner of the car that bears it is a supporter of the League's public-spirited activities in furtherance of good roads and road-signing (the second hundred thousand OML road signs are being erected), of safety, salutary laws and regulations and their equitable enforcement and of tourist traffic cultivation, among much else of general benefit. Increased membership enables improvement of services and increases influence exerted on behalf of members.

MONTHLY MAGAZINE—The "Canadian Motorist," official publication of the Canadian Automobile Association, published by the Ontario Motor League, has a circulation far in excess of that of any other Canadian automotive periodical.

ALL THIS AND MUCH MORE—So much for so little—is possible because of the co-operation of the leading motorists of the central province in establishing, maintaining and directing the **ONTARIO MOTOR LEAGUE.**

SERVING MOTORISTS FOR MORE THAN HALF A CENTURY

THE OML CLUBS ARE: AUTOMOBILE CLUB OF ST. CATHARINES, DISTRICT AND LINCOLN COUNTY—ESSEX COUNTY AUTOMOBILE CLUB — HAMILTON AUTOMOBILE CLUB — LONDON MOTOR CLUB — PETERBOROUGH AUTOMOBILE CLUB — ST. THOMAS AND ELGIN MOTOR CLUB — WATERLOO COUNTY AUTOMOBILE CLUB, OML BRANCHES AT CHATHAM, KINGSTON, OTTAWA, SARNIA AND SUDBURY.

For Further Information Write, Phone or Call at

CANADIAN CAA AUTOMOBILE ASSOCIATION

ONTARIO MOTOR LEAGUE AAA

2-6 ADELAIDE ST. E. TORONTO EM. 4-4171

THIS SECTION of road on La Ronge, Sask., to Uranium City highway was built five times. It disappeared four of the five times into the muskeg overnight.

Motor Club

Supports Road Plan

The fight to bring federal leadership into a national roads policy system has been spearheaded by the Canadian Automobile Association, representative of more than 600,000 private motorists across the country.

The motor club movement is the perennial champion of more federal participation for roadbuilding. It has appeared on capital hill on numerous occasions throughout the years to press its views on the subject before the government of the day.

Recently the Canadian Automobile Association met with the Prime Minister and, in a fully documented brief, urged upon the federal authority:

- **Convene a conference with representatives of provincial and leading municipal governments** to consider measures aimed at planning and building a national system of roads.
- **Appoint a consultative body to map a long-range program of policies** and recommendations on highway construction and administration.
- **Examine present highway and street financing with a view to added federal aid** to municipalities undergoing expansion at a rate where they are usable to provide adequate services from existing tax revenues.
- **Consider a national roads system second only to national defence** in importance to the country.

Rowley J. Hastings, CAA president headed a delegation that presented the brief told the Prime Minister:

Main points:

Canada is one of the few major nations in the world that does not have a national system of roads. It does not have, in consequence, a unified or co-ordinated system of highways that effectively serve the national interest.

The association considers that existing traffic arteries into major municipalities would have the capacity to evacuate populations in the event of a national defence emergency.

It also considers that roads for the important tourist industry require mutual appreciation and planning among all the major road-building agencies.

In the absence of a clearly-defined, long-range national road program, it is impossible to plan a network of roads that would provide the basis for the most efficient development of the nation's northland, both in regions of provincial and federal jurisdiction.

The association requested the federal government to convene a conference with provincial and leading municipal governments to consider measures to be taken among all levels of government in planning and building a national system of roads.

The CAA claimed a conference would receive the full support of its more than 600,000 members.

Backing its brief with a history of Canada's roads, the CAA brief said:

During the first half of the twentieth century and especially during the past decade, automobile transportation has undergone a phenomenal development.

The vast growth of the automobile population in the past decade has unloaded great financial and administrative burdens on all governments.

In 1890, not a single mile of concrete or bituminous pavement on the roads of Canada.

In 1958, there were 252,000 mi. of surfaced rural roads and highways, 41,000 of which were paved.

The weight and frequency of traffic also increased to the point where this high concentration of traffic has become a problem of nation-wide and national significance.

Automotive transportation has become an important factor in the productivity of national wealth in Canada.

On the economic side nationally the brief states:

It is estimated that one of every seven persons employed in Canada is now employed directly or dependent on economic activity related to highway transportation.

Far from a luxury, the automobile is regarded by Canadians as essential to their day-to-day living.

In 1904, there were 535 passenger cars in Canada. In 1914, the total was 45,716. In 1924, there were 573,204, and, in 1944, the total was 1,177,558.

The postwar boom in automobiles found 1957 with 3,367,525. Today, nearly five million automotive vehicles are in use on Canadian highways.

Tracing government expenditures, the brief said:

Effects on governmental activities have been commensurate. In 1946, total road expenditures in Canada by all governments was close to $276 million. By 1958, it had grown to $1,056 million.

Progress made by governments in correcting road and street deficiencies in 13 years has been modest.

Estimates showed close to 25% of road expenditures in 1958 were made by municipalities. In the main, municipal areas should not be the sole responsibility of taxpayers in any specific area where concentration of population has created traffic difficulties.

More than eight million cars will be bidding for space on Canada's highways — twice the present number, which makes a national roads system more urgent, the brief claimed.

Considering the constitutional aspects, the brief said:

The British North America Act gave road-building to the provinces. However, when the act was written, the automobile had not been evolved.

The CAA considers providing roads and streets second only to national defence in government responsibility.

In 1958, provincial governments spent 64% of the total expenditures on roads and streets including subsidies to municipalities.

Municipal governments spent 24.8% of the total and the federal government 11.2%. Federal government participation has been smaller than in the majority of nations of the world.

In the U.S. a system of co-operation between the federal government and the states has overcome the high cost of financing roads.

From 1921 to 1957, federal financing averaged 15.7% of highway construction. In 1957, federal funds totaled 22.4%.

The same year, the Canadian federal government spent 7.9% of all highway expenditures and much less in previous years.

Result of U.S. government participation has meant raised standards of construction and uniformity making their road system second to none in the world.

When the Canadian government is released of its Trans-Canada Highway commitment, provinces will no longer receive grants for a continued highway program.

At the provincial level:

As an example, a need study by Ontario showed that to bring all roads and streets in the province to desirable efficiency to keep them to standard and provide maintenance and administration during the next 20 years would require an expenditure of $7,152.9 million.

At the tourist level:

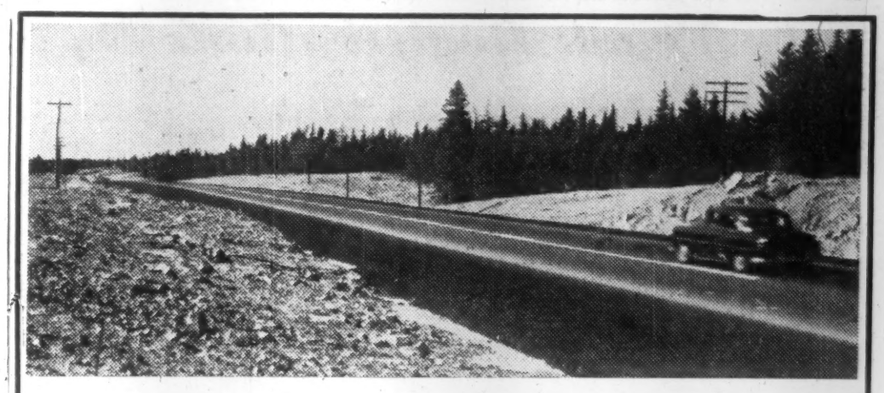
Improvement of routes to lure more tourists to Canada and to get more Canadians to see their country should be another major factor in the development of a national roads system.

The CAA has found that the majority of complaints from U.S. travelers has been the inadequate roads and streets.

The CAA plans:

- **Better co-ordinated and**

(Continued on page 53)



A STRIP OF PROGRESS

The province of New Brunswick is bringing its main trunk highways up to Trans-Canada standard. Pictured above is one example — a section of Route 1 (St. Stephen-Saint John) which has been re-constructed and widened. This is only one of many stretches where similar work is being done. It marks another step forward in the story of progressively better roads for New Brunswick.

NEW BRUNSWICK DEPARTMENT OF PUBLIC WORKS

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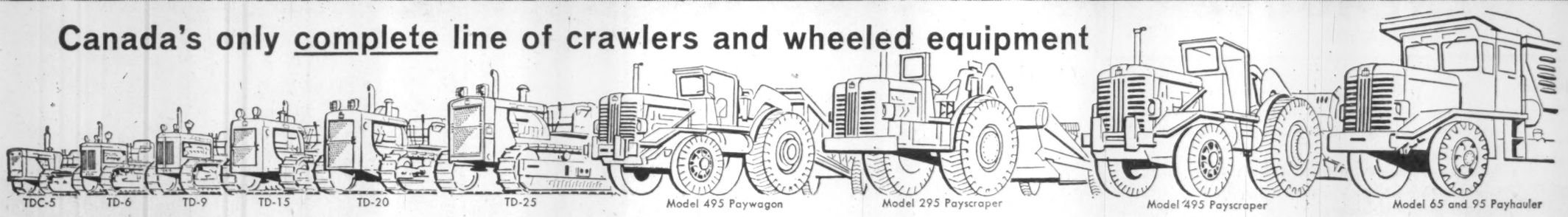

It pays to standardize on International because you save time and money when you deal with a *single*, reliable source for the most modern and complete line of earthmoving equipment in the industry . . . backed by the best in service, too.

The new TD-25 Crawler is a good example of the New Era in Productive Power that will put you hours and dollars ahead. Powered by a turbo-charged 6-cylinder diesel engine, the TD-25 delivers *full* 230 net hp at only 1,500 r.p.m. Exclusive "planet power steering" increases work capacity up to 50% over some clutch steered crawlers.

You'll want to compare International with the equipment you are now using. Call your nearest distributor listed at right. He'll be glad to come out on your job with the equipment you want to comparison-test.

Once you own International equipment you'll find that one call gets you the part, or the field or shop service you may require—and fast. Our after-sale service is tops in the industry . . . another reason why it pays to standardize on International.

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PRINCE EDWARD ISLAND
Moncton, N.B. — Lounsbury Co. Ltd.

NEWFOUNDLAND
St. John's, Corner Brook, Grand Falls — Harvey & Co. Ltd. Industrial Div.

36-132

Truck Registrations By Model, Province

1958

	Nfld. %	P. E. I. %	N. S. %	N. B. %	Que. %	Ont. %	Man. %	Sask. %	Alta. %	B. C. %	No.	Canada %
Pickup or Express	58.2	63.0	51.3	48.6	36.4	45.3	37.5	42.6	47.5	42.7	375,260	43.5
Panel, Sedan Delivery	4.7	1.5	9.4	14.4	25.3	19.1	15.6	3.0	8.5	22.9	140,925	16.3
Jeep	...	...	0.4	0.3	1.3	0.1	...	0.3	0.3	1.4	4,266	0.5
Utility	...	...	0.9	1.4	2.8	1.1	0.5	1.2	0.3	0.6	10,264	1.2
Van	12.4	1.9	3.9	5.1	4.8	6.0	5.7	4.3	3.0	7.5	45,777	5.3
Platform, Stake, Flatdeck	17.0	7.6	8.9	17.9	9.1	17.2	10.3	3.5	6.6	8.6	95,587	11.1
Mixer	...	...	0.1	...	0.5	0.3	0.4	...	0.3	0.6	2,751	0.3
Dump	5.5	3.8	7.6	6.1	5.0	4.9	3.2	2.9	3.8	2.8	37,492	4.4
Tank	0.3	0.4	1.3	2.7	2.5	1.8	1.4	3.9	1.8	1.8	18,311	2.1
Box	...	3.8	2.4	0.8	7.3	0.7	24.4	31.8	17.9	1.0	81,351	9.4
Pole or logging	...	0.3	0.5	0.3	0.1	*	...	*	0.1	0.5	993	0.1
Lowbed	...	0.1	0.1	...	0.2	0.3	0.1	0.1	0.1	0.4	1,713	0.2
Auto carrier	...	...	*	0.1	0.2	0.1	0.1	0.1	0.1	0.1	786	0.1
Bulk carrier	...	...	...	0.1	0.3	0.1	0.1	0.1	0.3	0.2	1,411	0.2
Mechanically refrigerated	...	0.4	0.3	0.4	0.3	0.3	0.3	0.1	0.2	0.2	2,168	0.2
Bottler	....	....	....	....	....	0.3	....	....	....	....	907	0.1
Unknown	1.9	17.2	12.9	1.8	3.9	2.4	0.4	6.1	9.2	8.7	42,813	5.0
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	.....	100.0
Annual average number of trucks	11,106	5,369	30,151	22,264	153,465	280,302	54,728	100,970	114,544	89,876	862,775	

*Less than ½ of 1 per cent
Source: Highway statistics, DBS.

Piggyback Loadings Up 75%

Although the public has hardly noticed it, a quiet revolution is bringing quick change to much of our transport technology and cost structure.

Piggyback continues to grow quickly. "Within 10 years, it should be many times its present size," says a rail executive.

The business of carrying highway trailers on railway flatcars only began in Canada in 1952—and didn't reach its period of great expansion until some years later.

Both truckers and railways tended to drag their feet, feeling that the many unknowns in piggyback economics might turn out to their detriment.

By last year, the boom was in full swing. Canadian railways reported piggyback carloadings up about 75% to 134,000, compared with 77,000 the year before. Carloadings generally were up only 2.2%, so piggyback was responsible for most of the increase.

In the first two months this year, piggyback loadings were 20,100 or some 30% higher than corresponding 1959.

For Canada, this tells most of the story of change—so far.

But there are two other related concepts which are expected to become much more widely used.

They are fishyback, which puts trailers aboard ship, and containerization, which takes wheels off the trailers leaving a big "box" which can be transferred from one form of transport to another.

Many containers are quite small, but others are full trailer size.

Canada has a little fishyback and containerization, the U. S. more. The U. S. also has in use more variations of the basic piggyback principle. Some of these undoubtedly will be imported into Canada.

There are no hard and fast estimates of cost saving. That depends on specific conditions. But a recent guess for one fishyback operation suggested a saving of 20% and one for piggyback envisioned savings of up to 40%.

Canada's first piggyback run was Toronto-Montreal in 1952. Movement on this route has multiplied many times.

Now, both railways carry trailers on coast-to-coast networks. And both offer extensive service to independent truckers, as well as carrying rail-owned trailers. **Canadian Pacific Railway,** particularly, has very large trucking operations and, therefore, many trailers as candidates for piggyback.

Canadian Pacific also offers service to motor common carriers between Saint John, Fredericton, Aroostook in New Brunswick; Montreal, Trois-Rivieres, Quebec, Ottawa, Smiths Falls, Toronto, Trenton, London, Sudbury, North Bay, Fort William, Dryden, Winnipeg, Brandon, Regina, Saskatoon, Swift Current, Medicine Hat, Lethbridge, Calgary, Red Deer, Edmonton and Vancouver.

CPR had 863 piggyback flatcars in operation at the end of 1959. There are 100 more on order.

Company's piggyback loadings in 1958 totaled more than 63,000 trailers. Figure for 1959 probably will top 100,000 and observers predict an increase of at least 10% in 1960.

Piggyback operations of **Canadian National Railways** are operated under the Road Transport Department. The company has over 700 flat cars in piggyback service and 260 trailers of 24 and 36 feet.

Last year CNR began hauling moving vans loaded with household goods and furniture and this has now become firmly established. **North American Van Lines** and **Allied Van Lines** have recently authorized use of it.

There are now CNR loading ramps at the following cities:

Brandon, Man., Sudbury, Calgary, Toronto, Edmonton, Vancouver, Fort William and Port Arthur, Ont., McGivney, N.B., London, Saint John, Montreal, Peterborough, Ont., Ottawa, Brantford, Ont., Quebec City, Kitchener, Regina, North Bay, Ont., St. Johns, Que., Windsor, Saskatoon, Sask.

McGivney was added as a piggyback point in May, 1959, and a terminal at Stellarton, N.S., was opened in October, 1959. In June last year the handling of less-than-carload traffic using delivery-type stake trucks on flatcars was started between Moncton and Halifax to provide overnight service and in September, 1959, this was extended to 1 c l freight for Prince Edward Island.

The stake trucks were replaced in November by 20-ft. semitrailers. Quebec City and St. Johns, Que., were added to the service in 1959 and recently the three Ontario cities of Peterborough, Brantford and Kitchener were added.

Also last year, between Montreal and Toronto, CNR doubled its regular piggyback service by the addition of a train in each direction daily except Sunday.

Company is accommodating piggyback traffic on a limited scale on passenger trains between Winnipeg-Regina and Saskatoon-Calgary.

In all, there are five variations of piggyback.

The first installed in Canada is known as Plan II, which simply involves rail-owned highway trailers riding on rail-owned flatcars. This is a variation of rail service not involving trucking companies at all.

Plan I involves the trailers of independent truckers. This has boomed in Canada in the past three years.

Plan III, now being pondered by the railroads, has the shipper himself owning the trailer.

There is wide potential here since increasing numbers of trucks are being operated by individual shippers.

However the railways face the probable eventual introduction of Plan III with mixed feelings.

To a considerable extent Plan III may come to involve freight already being carried by rail. Depending on the rate structure, shippers now shipping by rail may be encouraged to buy their own trailers, load their goods and ship the trailers by rail—and the railways may end up with less freight revenue.

Thus rate-setting for Class III is a tricky business.

Another factor: Rates for Class III could step on the toes of private truckers. Anything which encourages the growth of shipper-owned trailer fleets hurts for-hire trucking companies.

Canada hasn't yet got Plans IV and V, either.

Plan IV has the railway doing only the hauling, while the shipper owns both flatcar and trailer.

In Plan V there are joint rates and solicitation for business by the railway and the independent trucker. Each may handle shipments originating in or destined for the other's territory.

For containerization, the future looks exciting.

It exists in Canada, although in an earlier stage of development than in the U. S.

An indicator of the potential of containerization occurred early this year.

An all-container ship, owned by **Grace Lines** of the U. S., loaded steel and aluminum containers at Port Newark, N.J. This was said to be the first all-container cargo operation in overseas trade. Grace Lines plans to supply a second of these "Seatainer" ships.

The big containers arrive at dockside from different areas, pulled by trucks. They are loaded by giant gantry cranes, taken to South American destinations and unloaded.

This simple operation sharply reduces loading and unloading time and virtually eliminates pilferage, a traditional port problem. In fact, the "economics" of some ports are likely to be changed considerably as containerization becomes more common. In certain ports, pilferage is a major industry.

The beauty of containers is that they can be designed to move freely from road to rail to water transport.

New uses for containers are likely to be found in Canada.

This year CNR announced an experimental container service using small (nine cubic feet and 16½ cubic feet) collapsible aluminum alloy containers. Success in this program would result in its expansion and, probably, in the use of larger containers.

Truckers are watching developments on the Great Lakes closely for signs of a sudden burst of containerization and/or fishyback carriage of trailers.

There have been many predictions of fishyback development on the Lakes but few developments so far.

One Lakes fishyback service was attempted last year, when **Detroit Atlantic Navigation Corp.** began loading trailers at Duluth for lower lakes ports.

On the Canadian side, **Canada Steamship Lines** reportedly has been investigating fishyback for some time. With its big trucking subsidiary, **Kingsway Transports Ltd.,** it seems in good position to enter this field on a large scale.

Few doubt the value of fishyback and containerization.

A number of experts have warned truckers, ports, railways, shippers and shipping lines that the trend is likely to make substantial changes.

Big ports may gain at the expense of small ones, since trucks hauling big containers would be drawn away from the smaller ports to the big ones with modern container facilities.

Labor trouble may threaten constantly, as businesses involved strive to realize the full saving of piggyback, fishyback and containerization. All three eliminate some of the labor content in transportation. Truckers' and longshoremen's unions will resist this—and, in fact, already are doing so.

Aside from the more obvious growth possibilities, there are others.

It has been suggested that containers eventually may prove economical for certain types of bulk cargo.

And one U. S. railroad is applying Plan IV piggyback—assumed to be a long-haul operation—over short distances. It claims it can economically carry milk into New York from nearby areas.

New Safety Tires Designed To Meet All Road Hazards

To keep pace with new and improved highway construction, Canadian tire manufactures are finding new demands are constantly being placed on both passenger and truck tire design.

Emphasis on safety is industry-wide and all major tire manufacturers have stressed safety features in new tire designs to match sustained high speeds and longer passenger and truck mileage.

As an indication of how improved driving conditions dictate tire design, tire companies are introducing new safety type tires with features to combat specific road hazards.

New safety tires for instance, have heat vents (to combat heat build-up), carbo-jet tread compound (to compensate for greater automobile horsepower and braking power), new flat sided tread (to provide more road contact), and new cord construction (for greater impact resistance and longer tire mileage.

Greater truck traffic on Canadian highways have also resulted in a redesign of truck tires to stand up to changing conditions.

And B. K. Ziemann, assistant sales manager of **Seiberling Rubber Co.,** believes that Canada's northern development will create new transportation demands in the coming years.

"We can almost certainly look forward to the use of van type tractors, all rolling along on huge low pressure rubber tires—splashing over muskeg, rocks, ice, snow and open water with equal facility."

Dealing specifically with advances in tire construction, Mr. Ziemann cites trends in truck tire development within recent years—larger size tires, fewer plies of higher tensile cord material, heavy tread or extra tread construction, new and improved tire cords.

In the field of cord construction, Mr. Ziemann noted that rayon, nylon and tyrex cords might be augmented in the future by cords made of wire, dacron and fibreglass.

Additional types of tire cords might very well result from scientific developments at present in the laboratory stage.

With the increasing load which is being placed on trucks because of new building construction, improved distribution facilities by highway, Canadian exploration and development, and greater farm use, improved cord construction is a vital matter and is under constant study by tire manufacturers, he said.

Here are some of the features which have been cited as all-important in tire cord:

- **High tensile** strength.
- **High impact** resistance.
- **Excellent fatigue** resistance.
- **Resistance to thermal** degradation under load.
- **Dynamic stability** (lack of stretch or shrink).
- **Excellent wet strength** resistance to rot.
- **Good dipping** qualities — high affinity for rubber.
- **Ease** of handling.
- **Low** cost.

The tire of the future, built of cords and rubber now in the laboratory stage, might conceivably have greater cross sections with thinner walls and thicker treads.

Built-in puncture sealants or automatic air-pressure regulation, or both, could be standard in the tire of the future.

Remove Richelieu Bottleneck

A traffic bottleneck that plagued motorists for many years when traveling highway No. 7 in Quebec Province between Montreal and the U. S. border has been eliminated.

The new St. Jean-Iberville bridge over the Richelieu river about one mile downstream now diverts through traffic from the towns of St. Jean and Iberville and the formerly inadequate two-lane bridge spanning the river at that point.

Built for the Department of Public Works of the Province of Quebec, the steel superstructure for the bridge was fabricated and erected by **Dominion Bridge Co.,** Montreal branch. Erection of steelwork was completed in September.

The bridge, with a total length of 1,974 ft., consists of 11 spans, ranging in length from 169 ft. to 200 ft. between piers. It is in three sections: a four-span continuous deck plate girder section at each end and a three-span similar section at the centre.

Provision has been made for replacing the centre section with a lift bridge to accommodate shipping at some future date.

In design, the bridge has six parallel girders across its 48 ft., four-lane width, topped by a full concrete road deck without floor beams or stringers. Only lateral bracing is provided between girders. Bottom flanges of span girders are parabolic in shape.

An interesting feature of steel construction was the technique of splicing two girders end to end on a runway alongside, then hoisting them into place in one unit. These spliced units ranged in length from 160 ft. to 180 ft. long and weighed up to 60 tons each. They were hoisted into place by a 75-ton capacity traveler type derrick. **In this way, girders were cantilevered out from the piers at each span,** thus eliminating the necessity for falsework of any kind.

Total amount of steelwork involved was 4,470 tons.

Originally scheduled for 14 weeks, erection of steelwork was actually completed in nine weeks, representing an average of approximately 500 tons per week. Average number of men employed was 70.

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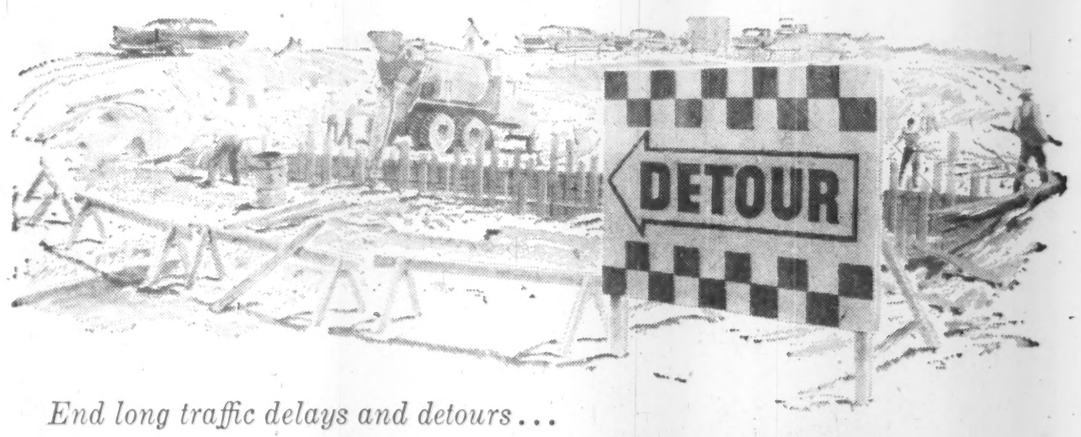

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Snow Removal

Intricate Operation

When recent blizzards hit Ontario, Ontario Department of Highways crews swung into action and had roads cleared in a surprisingly short time.

But behind what seems like a relatively simple operation is the painstaking planning and organization which shows its efficiency unobtrusively when just such emergencies arise.

Winter maintenance of highways, particularly snow and ice removal, and development of equipment for this purpose was started in Ontario soon after the automobile became a popular means of transportation.

Demand for improved service is increasing every year.

With many miles of highways and a high concentration of motor vehicles in certain areas, according to L. Westlake, superintendent of equipment, Ontario Department of Highways, it has been necessary to develop and use winter maintenance equipment of many types.

This equipment is strategically located and on 24-hour call.

In earlier days, winter maintenance operations depended largely on man-power, hand shovels and manually operated equipment.

Today, skilled operators, mechanics and supervising staff operate and maintain a modern fleet of equipment consisting of: 545 truck-mounted snow plows; 15 snow blowers; 750 abrasive and chemical spreaders; 148 power graders (one half with plow equipment); 223 units of loading equipment; 400 units used for supervision, inspection, patrol and equipment maintenance personnel. Total: 2,081 units of 23 types servicing 12,800 mi. of highway.

A program of research, development, testing and evaluation under direction of the equipment section of the department is a continuing function. Principal objective: to provide reasonable and satisfactory service to the travelling public.

Efficiency and economy are first considerations. Elimination of delay and "downtime" due to equipment failure is an immediate goal.

A study of winter maintenance equipment in the province over the past 30 years concludes that the present development program will continue indefinitely. Long range objective: To produce equipment capable of meeting the service demands of the "space age."

Winter maintenance operation, according to Mr. Westlake, is divided into four major divisions — preparation, inspection, snow removal, use of abrasive and chemicals.

The department is continuing its search for more efficient equipment. Every attempt, in the interests of economy, has been made to keep away from highly specialized basic equipment wherever possible.

Equipment which can be used throughout the year is more economical.

To understand the winter maintenance problems in Ontario and some of the basic factors behind the province's program, it's important to recognize the great variations in traffic volume and climatic conditions that exist in Ontario. It's hard to compare it with any other jurisdiction, says Westlake.

In the north: cold dry winters similar to the Prairies. Between north and south, the snow belt. In the south, particularly in the Hamilton-Niagara area, heavy wet snow.

On top of this: Traffic volumes range all the way from an annual average daily traffic volume of 50 on some secondary roads to 50,000 on Highway 401 in Metro Toronto. These factors present their peculiar problems and add to the complexity of the highways department's operations.

Move from manpower or manual phase of winter maintenance in Ontario gained ground rapidly in the 30's. Basic winter maintenance equipment has remained much the same over the intervening years with, however, considerable improvement in design.

Major exception is the rapid development of the mechanical truck-mounted abrasive and chemical spreaders. Since 1950, these spreaders have undergone radical changes and bear little or no resemblance to the friction and wheeled types and gravity feed tailgate of spreaders of earlier days.

To maintain and service the steadily growing equipment fleet, there has been a comparable growth in repair shop facilities. According to Westlake, the department now has well-equipped repair shops in each of the 18 operating districts of the department.

In addition, in some of the districts covering large areas, it operates small repair shops at outlying points. These auxiliary shops carry out all but major repairs.

There's also a headquarters repair shop where new units are inspected and serviced. Equipment attached to head office sections is also maintained and serviced and much of the experimental work and development work is carried out here.

Some 415 licensed mechanics are employed in shop and supervisory positions. A training school is operated for all employees to keep in touch with latest developments.

Fleet is kept in readiness for action at all times.

To accomplish this, ODH operates a year-round preventive maintenance program. In summer, all winter maintenance equipment is inspected, repaired and reconditioned. Basic equipment, in use during the summer, is checked all year round.

In early fall, mounting of winter equipment gets under way. This program moves forward progressively as summer work is completed and is aimed at having winter equipment mounted and ready for use by Oct. 20.

To house the fleet during operations, there are a number of operational headquarters and patrol headquarters located at strategic points in each district.

Number of locations and the number of snow plows, spreaders, etc., varies, depending on the local need. Abrasive and chemical stockpiles are usually near the various headquarters.

When ready for winter operations, the equipment is stationed at the various headquarters in each district and is available for use on a 24-hour basis.

Operators may be on duty or on call depending on local circumstances. Supervisory, inspectional and equipment maintenance personnel also operate on a 24-hr. schedule. They are on duty or on call as circumstances demand.

Department also operates a driver testing and safety instruction program. To ensure that equipment operators are qualified and to ensure efficient and safe operation of equipment, each operator is tested when first employed to ensure that he has the basic qualifications for his job and periodically thereafter to ensure continued efficiency as he is called upon to operate new or different equipment.

A program of safety instruction, operator training and running maintenance by operators designed to improve the operation is carried out. This program is a major factor in improved efficiency of operation and reduced accident rate.

There is an extensive communication system designed to facilitate co-ordination of the work of the winter maintenance fleet and staff. Radio telephone equipment is used in heavy traffic areas, in addition to normal telephone service, to co-ordinate the operation of all units through a control centre located at each of the 18 district headquarters in the province. Mobile radio equipment is now being introduced. It's expected to give better coverage and faster service.

Head office sections and the district offices are connected by teletype service operated on a 24-hr. schedule during the winter months, usually from Nov. 1 until early April.

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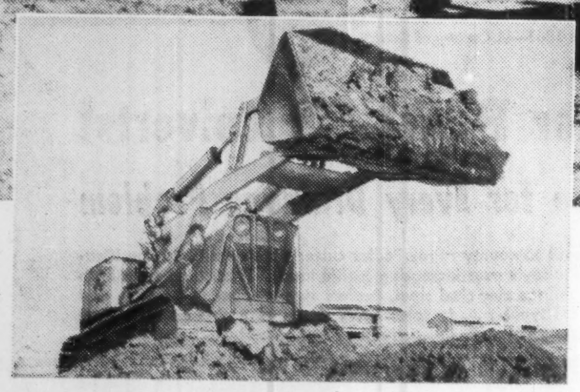

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Highway engineers in more than one province of Canada are beginning to take new interest in precast concrete pipe for construction of highway culverts.

Experiments are now under way in Alberta to verify cost and performance factors. **Interested manufacturers who see a big new market opening up for them are supplying the pipe** and highway officials will check its performance over several months.

Most highway culverts in Canada have been either poured concrete structures, built by highways departments themselves or their contractors, or corrugated metal culverts.

Precast concrete pipe was not as much used primarily because of the lack of up-to-date specifications. These specifications have now been completely revised, so that a quality product can be guaranteed by the manufacturer.

Recent research by the Ontario Concrete Pipe Association, and the overhaul of outmoded specifications, has altered the balance. The association has associate members among manufacturers in Alberta, Saskatchewan and Manitoba.

Pipe manufacturers claim cost comparisons should be based on hydraulic equivalents, and not on equal diameters.

The **Ontario Concrete Pipe Association claims test results show concrete pipe of a smaller diameter** is the same hydraulic equivalent as corrugated metal pipe of larger sizes. It is lower in both initial and installation costs, if this basis of comparison is used, says the OCPA.

Time savings in installation are an increasingly large factor in highway construction, it points out, and poured concrete culverts often mean detours and delays. Concrete pipe culverts can be installed in less time than it takes to build a detour.

Precast concrete pipe is used for sanitary and storm sewers, and drainage culverts by municipalities, railways and public works and defence projects. It provides drainage systems for railways, airports and industrial plants.

In Ontario alone, annual sales of sewer and culvert pipe exceed $15 million and plant and equipment investment is more than $67 million.

Concrete pipe is generally manufactured by placing wire reinforcement around a core which is an auxiliary to the pipe machine, then placing a form around both reinforcement and core. Concrete is poured into the form, and tampers compress it thoroughly between the core and the inside wall of the form. The form and core are then removed and the pipe is cured with steam under low pressure.

Specials — sizes and shapes that do not lend themselves to machine production — are cast in special forms.

There is a wide range of sizes — from four inches to nine feet in diameter, in lengths from 2 ft. 6 in. to eight feet. Shapes can be circular, elliptical, or flat-base.

Some of the large sections have been put to special uses, such as underpasses for both cattle and pedestrians. It has also been used for tunnels, manholes, catch basins, bridge piers, and dozens of other purposes.

Use of concrete pipe in Ontario dates back about 50 years, and in other parts of the continent, concrete pipe has been used since 1842.

Generally accepted life span is more than 100 years, and several sections of concrete pipe used as highway culverts have been dug up and relocated after years of service, still in good condition and able to do a job in their new location.

Part of the reason for durability of concrete pipe is the rigorous testing it undergoes before leaving the plant. It is subjected to a "three-edge bearing" test, far more severe than any conditions it will have to undergo in the field.

In this test, pressure is brought to bear by a single knife edge at the top and double knife-edges at the bottom of the pipe barrel. In the field, backfill and bedding surround the pipe, increasing the supporting capacity. But in the plant the pipe section is "on its own".

This built-in strength, says the OCPA is one reason it has been able to find no record of a failure in a pipeline built with barrels manufactured according to A.S.T.M. specifications and installed properly, although pipe has been used for more than 50 years.

Because of the manufacturing methods used, concrete pipe has a smooth finish inside the barrel. This means that culverts need not be as steeply graded, as water flows cleanly through, and there are no projections of corrugations to pick up sediment.

There is also a minimum impedence to flow at the inlets, and a minimum of turbulence.

Hydraulic efficiency of smooth concrete pipe is unexcelled by any other kind of culvert material, according to tests carried out at the hydraulic laboratory of the University of Minnesota.

Concrete pipe in smaller sizes is usually placed by hand. Larger sections are placed with regular construction equipment.

A recent development in manufacturing is the inclusion of lift holes to make the larger sections easier to handle.

One type of pipe recently developed, introduced to this country under a franchise agreement, is elliptical in shape, and is placed by passing each section through the section already laid in place.

It lends itself to a tunnel operation, which can be carried on beneath busy city streets without disrupting normal traffic, and with a high degree of safety for workmen who are protected by tunnel walls of pipe already in place.

Concrete pipe can also be placed by jacking it through existing embankments. The smooth surfaces are low in friction resistance, and the rigid walls prevent buckling.

Since the formation of OCPA three years ago, a program of research and technical information gathering has been undertaken, with excellent results.

Handbooks covering all aspects of concrete pipe have been widely distributed by the association, and tests carried out have resulted in new specifications.

Recently the association co-operated with the Ontario Department of Highways to develop a new specification for culverts and sewers of concrete pipe.

The association now has nine active members in Ontario, and 11 associate members, including manufacturers outside the province, and companies supplying the industry.

The association maintains an office in Toronto at 60 Harbour St., and a full-time manager, D. H. Perkins, who is a professional engineer.

He initiates and supervises research projects, publishes and distributes results.

Program Produces Engineers

One of the most successful scholarship programs in the country has yielded enough highly trained highway engineers to staff a good-sized roads department. All these men have been extensively schooled in one or more specialized branches of the highway sciences.

The program is administered by the Canadian Good Roads Association with underwriting by major highway industries.

With the award of six scholarships this year, the CGRA scholarship program will have given postgraduate training to 30 young Canadians. The scholarships have a total value of $65,000.

Universities from which these technologists have graduated during the past eight years include Yale, Purdue, California, Cornell, Alberta, Queen's and Illinois. All 24 graduates are now working in Canada with a provincial, municipal or federal highway department, with a consulting engineer or with industry.

The training they have brought back to their jobs has served to raise the general level of highway technology in Canada.

Eight of the 24 graduates have taken postgraduate work in traffic engineering. Soils mechanics is the second most popular subject, with five of the graduates taking training in this branch of the highway sciences.

Other courses include: highway planning and highway economics, planning and design, transportation planning, design and construction, and structural design.

Companies that have participated in the scheme include: **Armco Drainage & Metal Products of Canada Ltd; Canadian Salt Co; Westeel Products Ltd; Union Tractor Ltd; Standard Gravel & Surfacing of Canada Ltd; Industrial Acceptance Corp; Canadian Husky Oil Ltd; Imperial Oil Ltd;** International Road Federation.

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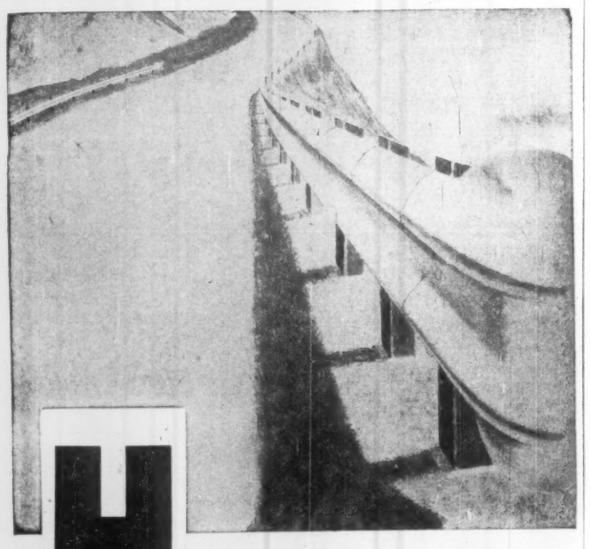

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How to Pick *Right Computer*

Electronic computers will play a more and more important part in future in establishing data processing systems for highway organizations.

In establishing such a system, the biggest decision concerns choice of the electronic digital computer which will form the heart of the system.

Here's a resume of the main factors involved as described by P. E. LeBlanc of the Department of Public Works, Ottawa:

Hundreds of different computers are available. New ones appear each year. They are generally divided into three classes, depending on their processing speeds: small or slow speed computers, medium speed and high speed computers.

Some are custom-built and are very efficient in handling specific types of data. The more common type is the general purpose computer, which, at the expense of some efficiency, is more readily adaptable to any type of logical problem.

The general purpose electronic digital computer is the one most commonly accepted as suitable to the average highway organization.

Input consists of data in a format which can be assimilated by the machine. The control unit directs all operations within the computer. Storage, or memory, is capable of retaining information until recalled into action by the control unit.

Arithmetic unit performs essentially the same functions as a desk calculator. Finally, the output consists of results in legible form or in a form quickly convertible to "listings" by ancillary equipment.

Although these basic properties are common to all electronic computers, there are many characteristic differences which will influence choice, including: input-output format; ancillary equipment required; internal storage capacity; ease of programming; reliability of the system and availability of maintenance service; processing speed and cost.

Four types of computer input-output are in common use: keyboard, magnetic tape, paper tape and punched cards.

The keyboard is essentially a typewriter connected directly to the computer. Input speed and accuracy is restricted to the speed and accuracy of a typist, and is normally considered too inefficient for the high internal speeds and operating costs of an electronic computer.

Magnetic tape is the fastest terminal medium available. It is used extensively as input-output with large high-speed computers. Normally, however, costs involved prohibit its use with medium-speed computers.

Paper tape and punched cards are the most common input-output formats used with medium-speed computers.

Punched cards have two advantages not shared by any other media, they can be rearranged or "sorted" into any logical order by a card sorter, and small items of information can easily be inserted, deleted or changed at any time. In addition, time and service is available on punched card installations in most large centres in the country.

Paper tape has the advantage of being somewhat faster than punched cards as input. It is also somewhat more compact. The use of punched paper tape has increased rapidly in the last few years with the advent of many new paper tape producing and processing machines.

It is impossible to generalize on the desirable speed of a computer.

A computer with high internal speed and slow input-output may be ideal for applications involving little data but long complex calculations, whereas the same computer may be hopelessly inefficient for problems involving large volumes of input-output and relatively simple calculations.

Then, again, a computer costing $100,000 which can handle all work if operating full time is evidently a better investment than one costing $200,000 which does the same amount of work much more rapidly and is sitting idle half of the time.

Highway organizations are interested in the speed at which a computer will process their particular applications. **The only practical way of determining this speed is to visit existing installations where similar applications are being processed.**

A program must be prepared for each computer application. This program consists of a logical sequence of steps to be followed by the computer in solving problems of a given type.

Once prepared, the same program can be used over and over again to solve problems involving the same procedure. The program is recorded on the standard input format of the computer and is transferred to computer storage when required.

For example, a program for processing highway design quantities need simply be transferred to the internal storage of a general purpose computer in order to transform the computer into a machine designed specifically to calculate highway design quantities.

Preparing a program can take weeks, months or years depending on the complexity of the application and on the system of programming required by the computer. Nothing can be done about the complexity of a problem, but much has been done to simplify programming, and much is yet to come.

Program steps or instructions are presented to the computer in the form of numerical codes which are interpreted by the computer as indicating that a certain operation is required.

For example, a computer may be so devised that the operation code 19 will indicate that a multiplication is to be performed, the code 14 that a division is required and so on.

One computer may be restricted to 15 possible operations whereas another may be capable of interpreting 40 different instructions. Provided all 40 operations are useful, obviously the second machine would be more versatile in programming than the first.

When a program involves thousands of instructions, the problem of avoiding errors in logic and in actual coding becomes serious. Correcting errors in a program or "debugging" is a time-consuming and expensive procedure involving the use of test data on the computer.

In order to simplify program coding and eliminate human error as much as possible, symbolic programming systems have been developed for some computers. The basis of these systems is to reduce each instruction to as simple a symbolic code as possible and use the computer itself to transform the program into digital codes.

Some of these symbolic programming systems have proven extremely valuable in saving untold hours of programming and "debugging" time as well as producing more efficient programs than would be possible manually.

Reliability in the sense of error-free processing is hardly a problem in present-day calculators. Such elaborate self-checking devices have been built into these machines that internally produced errors are practically nonexistent.

Electronic computers on the other hand are very complex machines. Occasional breakdowns are inevitable and periodical preventative maintenance is essential. Preventative maintenance will require from 5 to 10% of machine time, breakdowns should not consume more than 5% on the average. A system can therefore be expected to be productive from 85 to 90% of the time.

The availability of competent repair service is obviously an important consideration if delays due to breakdowns are to be kept to a minimum.

The comparative cost of alternate electronic processing systems is no doubt the ultimate factor in choosing a computer. Little need be said about it, however, since the problem is simply one of selecting the most economical system which will provide satisfactory service.

On some machines special features can be added immediately or at a later date which facilitate programming, increase speed, versatility or capacity.

Some experience with data processors and knowledge available through publications on the subject of data processing will be definite assets in judging the true value of various features.

Individual requirements will dictate which factors will carry the most weight in choosing a computer. It's important that selection be preceded by a careful study of pertinent factors as they apply in each establishment.

Research should include:

- **Determine what format** of input-output will best suit your purpose.
- **Determine what ancillary data** processing equipment is available in the neighborhood.
- **Determine as closely as possible** what minimum computer storage capacity will be required.

Determine what processing speed will eventually be required.

- **Determine the maximum price** the organization is prepared to pay for a processing system.
- Become familiar with the fundamentals of electronic data processing and with the value of special features available on certain machines.

Later, when studying a specific system, in addition to comparing its characteristics with established requirements, determine:

- **The relative value** of programming systems available.
- **How reliable** the system is, and how good maintenance service will be locally.
- **How well the system fits** in with ancillary equipment already available.

CANADIAN GOOD Roads Association pavement evaluation members watch part of data sorting operation on highways information at Ontario provincial highways computing centre.

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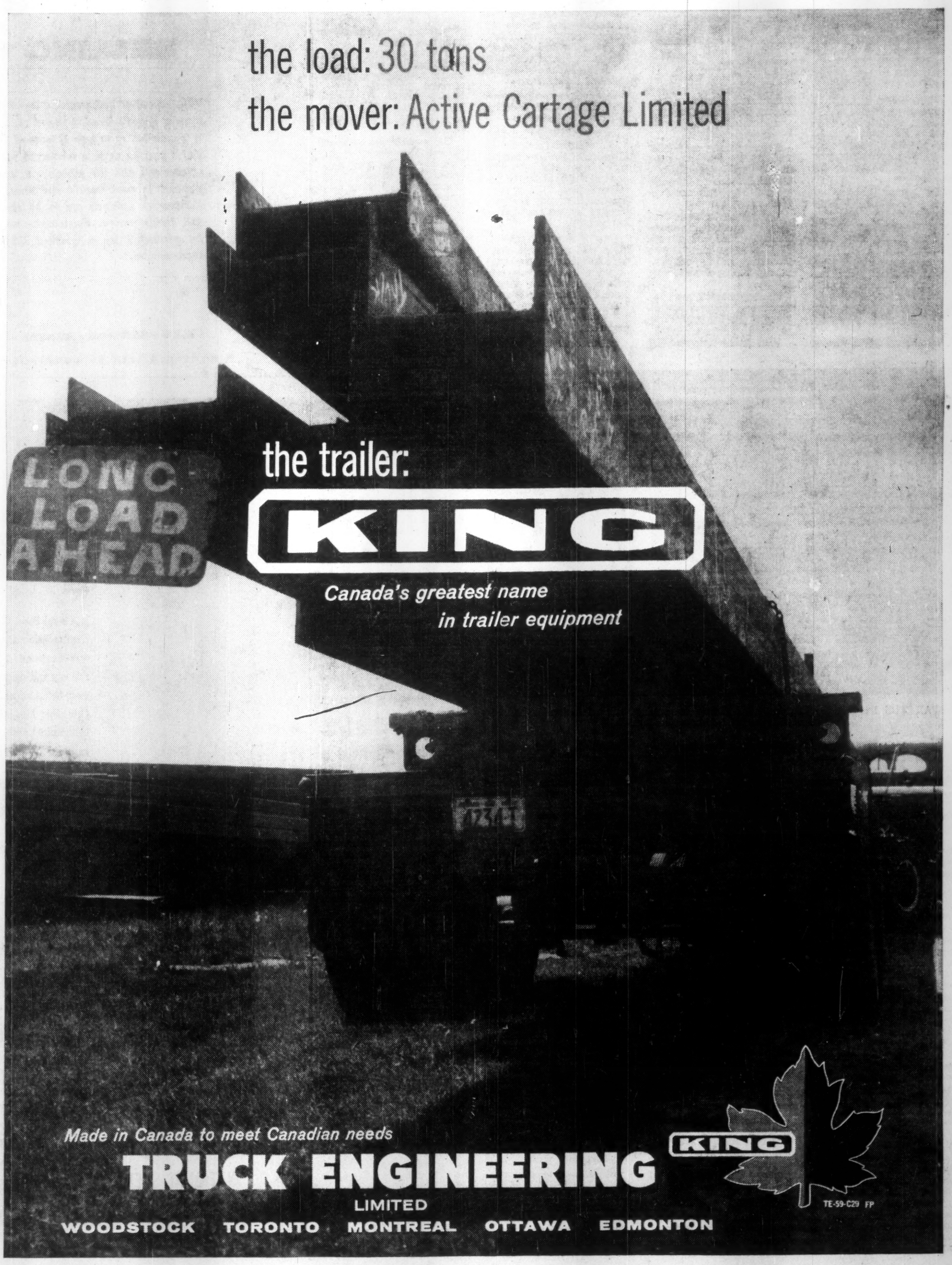


NRC Solves Soil Problems

Water enemy of building materials

CARL B. CRAWFORD
Head, soil mechanics section, division of building research, National Research Council, Ottawa

The division of building research, National Research Council, is attempting to provide a research service to the construction industry of Canada.

Its work is therefore often closely related to problems encountered in road building, since highway construction represents so large a part of Canadian building activity.

Many of the most serious highway engineering problems result from the use of soil as a building material.

Accordingly, much of the work of the division's soil mechanics section is applicable to highway problems. Current work that is of direct interest is described in this article.

The greatest enemy of building materials is water, an innocuous liquid that in many ways is a scientific curiosity. Water, therefore, is a subject of considerable interest to building research.

Water, it will be found, is of paramount importance in highway construction. Because of this, good drainage has become synonymous with good construction; poor drainage the symbol of poor construction.

The spring breakup of roads is possibly the greatest problem facing Canadian highway engineers. Spring breakup results from frost action in soils.

In connection with this and similar problems, one of the first soil mechanics projects of the division of building research was a study of frost penetration and ground thawing.

For several years, ground temperatures were measured at a dozen locations in Canada.

When the nature of ground temperature variation had been generally established, the investigation was given a more theoretical emphasis.

Efforts have now been made to compute soil temperature variation on the basis of certain known facts and certain assumptions. Computed values are being checked in the field.

Frost action in soils is not a simple matter. The fundamental cause of frost action escaped the comprehension of scientists and engineers for many decades.

Until recent years, the heaving of the ground during freezing was considered to be due to the normal expansion of water in changing to ice.

Careful laboratory investigations provided the first break in this erroneous concept of frost heaving by demonstrating that certain types of soils, when they freeze, draw water to the frost line and build up layers of pure ice.

Detrimental frost action in highways takes two forms. Early in the winter, the road surface begins to heave.

The heaving is usually not uniform and this results in an uneven surface. In some cases, this differential heaving of the surface is so serious that it introduces a danger to normal traffic.

With the approach of the warmer weather, the ice lenses melt and release great quantities of water in the upper few inches of the roadway.

This rapid release of water creates an unstable condition in the soil.

In the extreme condition, the soil loses all its strength and "frost boils" appear. These are isolated pockets of saturated soil that flow to the surface under traffic loads.

In an effort to improve fundamental understanding of frost action in soils, DBR is engaged in an extensive laboratory investigation of this problem.

Field observations are made whenever possible and an attempt has been made to correlate road performance with local climate.

The first stage of the laboratory study was to measure the magnitude of the suction set up due to freezing.

Artificial soil mixtures with variations in grain size and density were employed.

Under carefully controlled temperature conditions, the amount of heave and the surcharge necessary to prevent heave were measured.

The apparatus was later modified to provide a more simple condition of heat flow. Special heat meters were developed to permit measurement of the heat flow.

The balance between heat in and heat out of the specimen was established, permitting a very accurate accounting of the heat exchange during the freezing process.

This fundamental work has contributed to the understanding of the mechanism involved during ice lensing.

With better understanding of the mechanism, it is possible to develop improved tests for assessing the frost susceptibility of a soil material. Work is now proceeding in this direction.

From a practical point of view, there has always been much interest in the usefulness of additives for the prevention of frost action in soils. A common additive is a waste product of the pulp industry, calcium lignosulphonate. Investigations of the freezing point depression and the rate of crystallization as a function of the concentration of calcium lignosulphonate solutions has thrown light on the mechanism by which this material reduces frost action.

Owing to the magnitude of the pulp and paper operation in Canada, there is available a considerable quantity of calcium lignosulphonate. During the last ten years, a great many practical cases of frost action have been improved by the use of this material.

It is hoped, during the next few years, to carry out further controlled field experiments together with laboratory investigation in order to improve the usefulness of this promising additive.

• MUSKEG

Muskeg, a word descriptive of much of Northern Canada, is derived from the Chippawa Indian word "maskeg" meaning "grassy bog". The material found in a muskeg is called "peat" or "muck".

It is characterized by very high organic content, very high water content and by its sponginess and compressibility. "Organic terrain" is a general term applied to muskeg regions.

Few countries are pushing back highway frontiers to the extent common in Canada. Much of this "frontier" building is through regions of organic terrain where the road foundation alternates between rock, soil and muskeg.

Soon after World War II, the National Research Council's associate committee on soil and snow mechanics recognized the importance to Canadian development of an improved understanding of the terrain of the country.

The sponsoring of fundamental research on the occurrence and nature of muskeg resulted in a system of description and classification which has proved to be invaluable in the exchange of technical information.

This system was developed by Professor N. W. Radforth of McMaster University.

In 1954, DBR initiated an active research program to investigate the engineering problems associated with muskeg and to study the engineering properties of peat. Most of this work has been directed toward road building problems.

One of the first publications of the division dealt with techniques of road construction over organic terrain. This was not original work but rather an effort to bring existing knowledge to the attention of practising engineers.

The first practical work by DBR in this field involved studies of field problems.

Efforts were made to "try out" the recently developed classification system. Samples were obtained and tested in standard soil mechanics apparatus.

Various types of apparatus for "field testing" were tried.

It was soon established that road construction is one of the greatest engineering problems associated with muskeg. Opinions are varied, for instance, as to whether or not roads should ride the muskeg, or whether the organic material should be replaced.

Various opinions are available on the best methods of replacing the muskeg.

The division was fortunate in being able to develop with the Ontario Department of Highways a joint program of field investigation to assess performance of roads over muskeg in Northern Ontario.

During the summer of 1958, a small field party traveled 6,500 mi., investigated 44 separate muskeg areas, made 240 soundings and collected 500 samples of peat for laboratory testing.

Roads over muskeg were assessed on the basis of general performance and surface condition. Depth and type of fill, depth and classification of organic deposit, and type of mineral subsoil were recorded at each site. During the summer of 1959, this program was continued.

More detailed investigations of the most interesting sites were made and further work was done on methods of assessing the properties of peat by field tests.

This co-operative program provided a much improved understanding of the relative performance of roads over muskeg compared to roads over mineral soils.

It revealed characteristics of muskegs over which roads are not generally satisfactory.

In addition, the nature and variability of peat material, locally and over a broad area, has been recorded.

• Swelling, Shrinking Clays

In some parts of Canada, swelling and shrinking clays create a serious problem with shallow foundations and road surfaces.

In Ottawa, known to be one of the worst regions in Canada, surface movements of pavements can amount to more than a foot.

In other parts of Canada, particularly on the prairies, similar movements have been recorded. In order to appreciate swelling and shrinking of clay soils, it is necessary to visualize clay structure.

Clay particles are too small to be visible to the naked eye. They are the finest soil particles. They include "clay minerals" which have very unusual and variable properties.

Unlike larger soil particles, the clay minerals have odd shapes. They are generally plate-like particles and their dimensions may be in proportion to those of a razor blade.

Clays normally contain a rather high proportion of water. More than half the volume of most natural clays will be water.

The marine clays of Eastern Canada sometimes contain three parts water to one part mineral. The property of the water that surrounds these very minute particles is considerably altered by attractive forces between the mineral surface and the water molecules.

It is often considered to be "solid water" having properties similar to that of ice.

These clay particles have a so-called affinity for water. For this reason, it requires force to remove water from a mineral and, at the earliest opportunity, some minerals will absorb water to replace that removed. Since natural clays contain such a large proportion of water in their volume, it is not surprising that when the water content is altered, the bulk volume of the soil will change.

Field and laboratory experiments carried out in Ottawa have revealed that the main local soil problem is primarily one of shrinking clays.

Only part of the soil volume can be recovered by reswelling.

This can be attributed to the rather special structure of the marine clay found at Ottawa.

Trees have proved to be the greatest single factor causing movement. It is well known that broad-leaved trees such as elms and maples lose great quantities of water to the air by transpiration in warm weather.

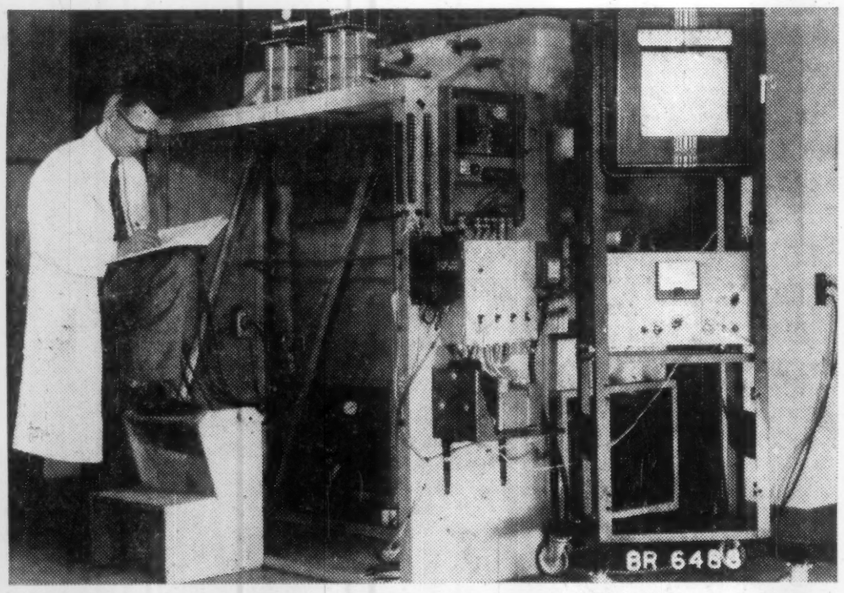
The source of this water is the soil. Its removal causes shrinkage.

Gauges installed in the ground at various depths and at various distances from trees have established the magnitude of movement that is possible. In one location for instance, more than three inches of surface movement was measured near a tree during one summer.

Observations over a period of years have suggested that the net downward movements of the ground surface result from a cumulation of serious settlements occurring about one year in 10. In the intervening years, when the weather is not so hot and dry, the measured movements appear to be of much less significance.

On the Prairies, the situation is different. A type of clay mineral which is more susceptible to swelling is commonly found. In addition, the natural soils exist at a much lower water content. For these reasons, there is a

(Continued on page 51)



APPARATUS IN USE by Division of Building Research, National Research Council, Ottawa, for study of frost action in soils.

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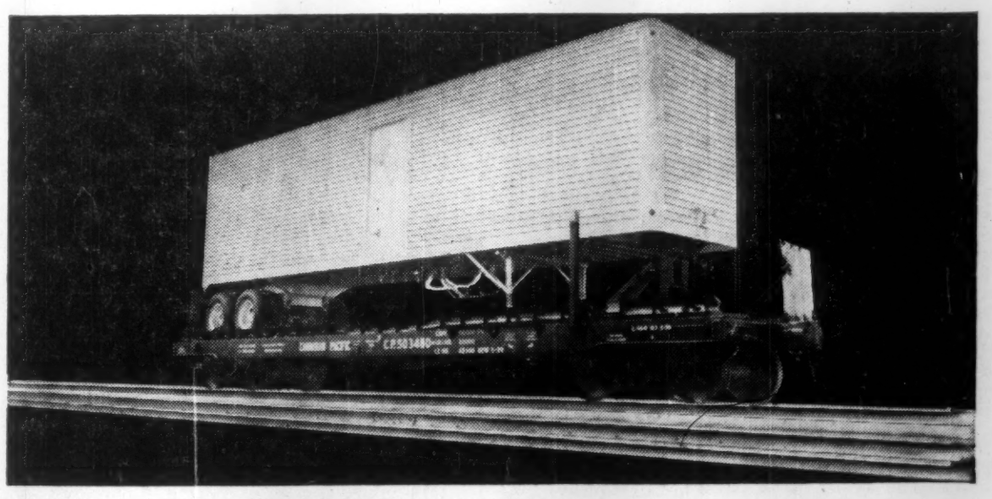

SHOWN HERE: A piggyback combination, the National Steel Car 46-ft. CPR Highway Trailer Flat Car, and the Trailmobile C-68 Van, developed through companies engaged in the transport of freight by piggyback.

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Railways

Expand Trucking Services

Canada's two major railways have been "going off the rails" in a big way in recent years.

The expansion of trucking services by both **Canadian Pacific Railway** and **Canadian National Railways** has produced a significant change of position in the over-all Canadian transport picture. It has been far from popular with independent truckers.

Railway philosophy follows this line:

Competition from the highways is of growing danger to railways. It seems an expanding force that cannot be checked. Therefore, discretion being the better part of valor, the railways have accepted the situation and instead of fighting the truckers, have joined them.

At present, CPR is much the more active. To a considerable extent this probably is due to the fact that it is less sensitive to the powerful political pressures that always surround any step by the railways into a new field.

But more important is CPR's background. It has always considered itself a giant, intergrated transport system that should embrace all forms of materials and passenger moving on land, sea or in the air.

CNR has been slower to move into trucking. It is essentially a railway, and being a Crown Corporation it has to pay very close attention to public reaction.

The trucking industry now is alive with rumors of CNR approaches to various firms it might buy. But for the time being CNR is playing its trucking expansion cards very close to its vest.

Here is where the two railways stand now:

▲ **Canadian Pacific** through its trucking facilities owns or controls over 10,000 route-miles extending from coast to coast.

In Montreal recently, it was disclosed that Canadian Pacific and principal subsidiaries operate more than 5,000 trucks, trailers and tractors in a modernization program to co-ordinate rail and trucking facilities.

A new merchandise services department opened in Vancouver last October introduced the first service of its kind in Canada to offer all-rail haul, highway, combined truck and rail haul, piggyback and air service to many points.

This new type of merchandise-handling, which also integrates Canadian Pacific's express, truck and less-than-carload rail shipments, will gradually be extended eastward.

The Vancouver terminal, built at a cost of $840,000, speeds the dispatch of various types of merchandise by one organization. Some 293 trucks, tractors and trailers handle the transportation for shippers in Vancouver and on Vancouver Island, the area where the pilot operation is now running.

Canadian Pacific Transport, with headquarters in Winnipeg, provides over-the-road service with more than 575 trucks, tractors for 3,220 highway miles operated, and piggyback (highway trailer-on-rail-flat-car) service to 11 principal points in Western Canada from Winnipeg through to Vancouver.

A wholly owned subsidiary of the Canadian Pacific Railway Co., CPT itself owns **Dench of Canada Ltd.** in Alberta and **O.K. Valley Freight Lines** in B. C.

GP Transport provides service in Manitoba and Saskatchewan and Dench and O.K. Valley in the two other western provinces. Piggyback traffic is interchanged between the three highway operations.

The advantages of highway transport, operated in conjunction with rail service in such a way that the public will receive benefits of both, is the main selling point in the operation of 206 highway miles in Manitoba, 602 in Saskatchewan, 1,341 in Alberta and 1,071 in British Columbia, CPR says.

Co-ordinated rail-highway services of the parent railway, which operates more than 17,000 miles of track in Canada, and **Canadian Pacific Express** also figure in the developing network. **The express company has some 1,022 tractors, trailers and trucks in operation** over 1,682 route miles.

O.K. Valley Freight Lines and Dench of Canada handle highway service for express and less-than-carload traffic between Vancouver, Lethbridge and Calgary. Highway service for transporting Royal Mail is operated between Calgary-Edmonton, Medicine Hat-Nelson and Nelson-Vancouver.

Canadian Pacific which began its piggyback services in October, 1957 (trailers not owned or operated by the company), has experienced a steady growth in this type of operation which combines the flexibility of highway transport with the efficiency of intercity railway mass transport.

Rounding out its highway freight facilities, Canadian Pacific acquired a controlling interest in **Smithsons Holdings Ltd.**, which owns **Smith Transport Ltd.**, largest trucking company in Canada in 1958.

Together with a number of affiliated companies in the highway transport business in Eastern Canada, this network extends over some 7,000 miles from Nova Scotia to Manitoba.

▲ **Canadian National's road transport department was created in 1953** and took over the trucks and buses formerly operated by other departments of the railway.

At present the department operates 50 buses in various local and inter-urban services in Central Canada and 514 trucks and tractors haul local and inter-urban freight on a system-wide basis.

It operates in Ontario: city transport services in St. Catharines, Niagara Falls, Stamford, Merritton, Thorold, and Port Dalhousie.

However, the operations at Niagara Falls and Stamford are scheduled to cease on Aug. 31, 1960.

CNR formerly operated the city bus service at Oshawa, Ont., but this was discontinued Dec. 31, 1959, and the service was sold to the city.

CNR's trucking operations so far have largely been restricted to replacement service taking the place of uneconomical freight runs it has been allowed to drop.

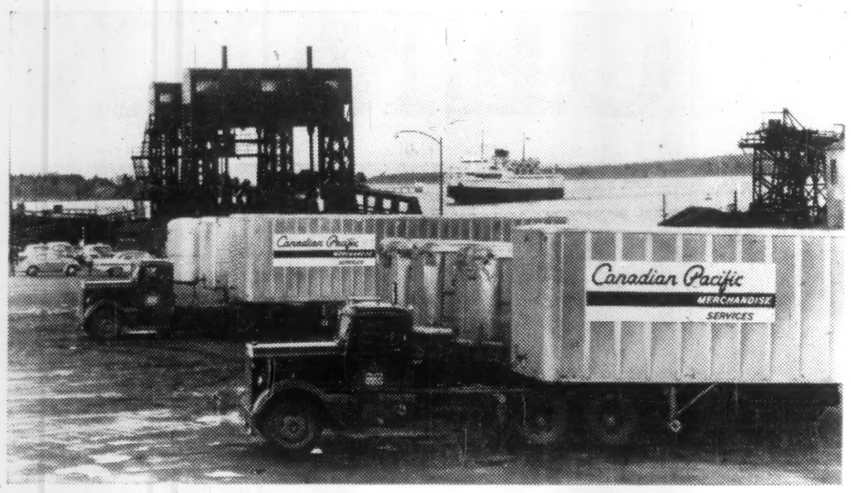
The first of these was Campbellton to Dalhousie, New Brunswick, introduced on March 21, 1955. A month later Moncton and Point du Chence, also in New Brunswick, were linked by trucks.

Nine more truck services were introduced during that year. Four were in New Brunswick with two in Ontario and one each in Saskatchewan and Manitoba.

The following year saw only one new trucking service introduced. Fort William to Longlac, Ontario. One more was added in 1957 with trucks serving the Hamilton-Port Dover-Port Rowan, Ont. line.

Ten more were introduced in 1958, nine of them in the Maritimes; another 15 in 1959 again largely in the Maritimes.

Most transport men are betting that CNR will be announcing trucking expansion plans in the near future. If they are right, trucking stands to become a hot political issue in the months ahead.



NANAIMO TRUCKS of the Canadian Pacific merchandise service, awaiting transfer.

Tackles Builder's Problems

(CONTINUED FROM P. 50)

much greater tendency for swelling problems on the prairies.

Some research on this problem has already been carried out on the prairies. The division has plans for an extension of this work from Ottawa to the West in order to assess more completely the general problem of swelling and shrinking clays in Canada.

• **Moisture Measurement**

Moisture changes beneath a roadway will do more than any other single factor to alter the properties of the material. For this reason, much effort has been devoted to methods of measuring moisture content and moisture content changes in the ground.

The usual method of measuring moisture content is to obtain samples of the soil, and to measure the amount of water that can be driven off by heating. **It would be extremely valuable to have a non-destructive method of measuring moisture content.**

Many non-destructive methods of measuring the moisture content in the ground have been proposed. Most of them have serious disadvantages as far as engineering use is concerned.

One of the most recent methods proposed involves the scattering of neutrons from a radio-active source and detecting the number of neutrons that return to a special sensing device. It can be shown that the number of neutrons lost in the medium, and therefore not returned is a function of the number of hydrogen atoms in the medium.

Since one of the components of water is hydrogen and hydrogen is not normally found in soil minerals, this device can be employed to measure water content.

One of the most serious problems with the use of this "neutron meter" is the difficulty of obtaining a satisfactory calibration relating returned neutrons to hydrogen.

As a contribution to the development of this instrument, a neutron meter has been designed, built and calibrated in various well-defined and reproducible media to obtain a satisfactory calibration.

It is thought that the neutron meter is the most promising of all field testing devices now in use for engineering analysis of soil mixture content.

• **Settlement Under Fills**

First-class highway construction introduces increasingly difficult soil problems which require more refined design.

There are a number of reasons for this — less tolerance on surface movements, location over poorer subsurface materials due to strict alignment requirements, greater foundation loading due to higher and wider fills and heavier structures and increased traffic volume and loading.

Research on the strength and deformation of natural soils now has greater application to highway engineering problems.

DBR has, for several years, conducted building settlement studies.

Recently very complete instrumentation has been applied to two highways fills to study settlement and stability features.

These studies are providing information that will be useful in predicting the deformation that will result from earth embankment loading of compressible subsoil.

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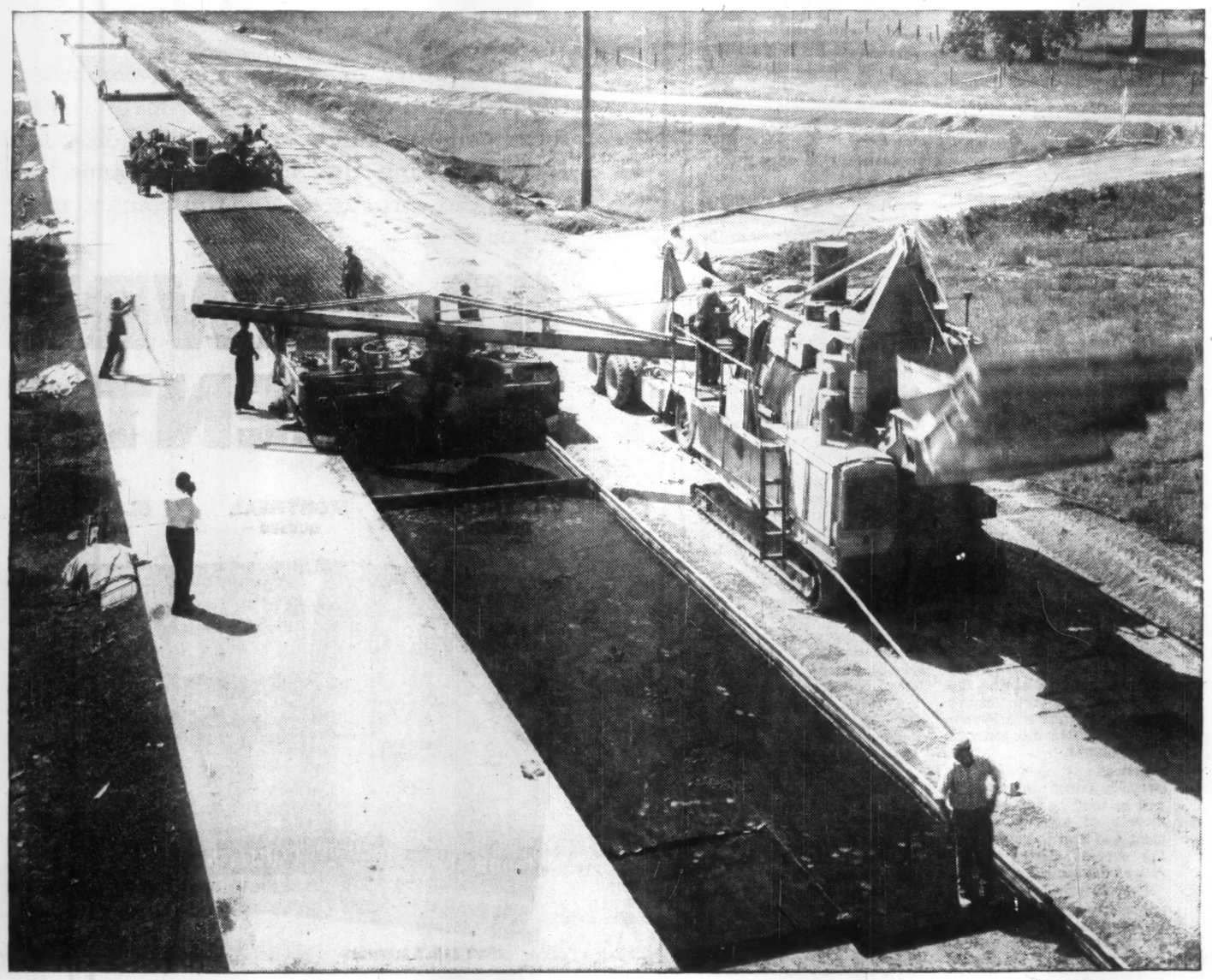

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CANADA BUILDS WITH CANADA CEMENT

Paving operation on a concrete highway project in Ontario

Soil Testing

Avoid Costly Delays

During last summer and fall, the intersection of two of Canada's busiest highways —the Welland Ship Canal and the Queen Elizabeth Way—was the centre of a special kind of "mining operation".

This was an important but unobtrusive part of the engineering of the Ontario Highway Department's $17 million high level bridge planned to replace the existing lift bridge.

What made this mining operation special was the product the drill-rigs and their steel-hatted crews were bringing up—dirt.

And this—not ore or oil or gas—is exactly what they wanted.

For these undisturbed samples of earth reveal, to those who can interpret them, information worth millions of dollars, and hundreds, perhaps thousands, of engineering and construction manhours.

A few inches of unpredicted settlement or an unforeseen shift in the soil underlying a structure spells costly delay during construction or costly repairs after it.

These soil engineers, with the aid of some remarkably complex—and also some remarkably simple—techniques and equipment, can predict, in terms of facts and figures, just what the soil in an area will do under various kinds of stress.

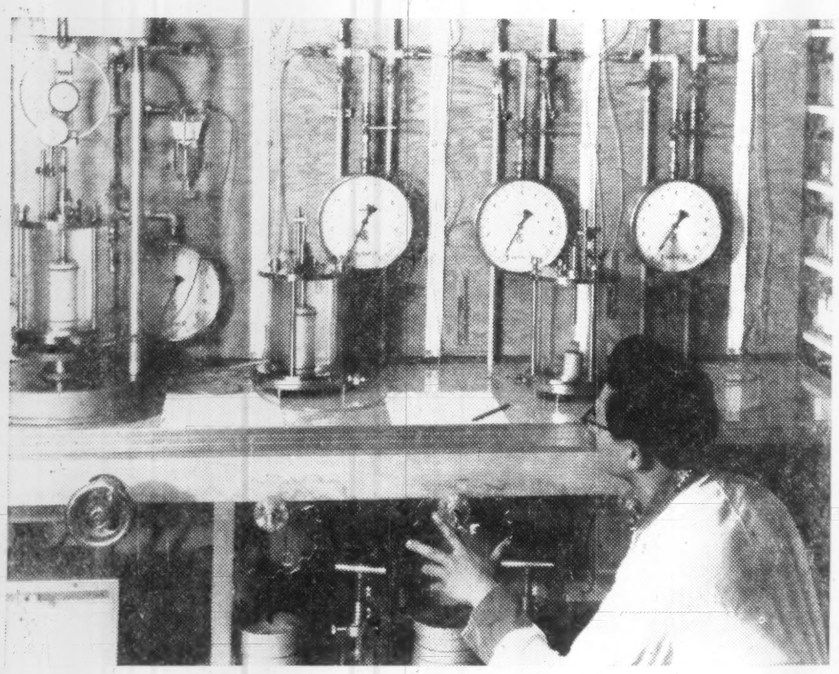
For the Homer Bridge, this testing and analysis is centred at the laboratories of **Geocon Ltd.**, in Rexdale, Ont.

With the possible exception of agricultural scientists, no other group devotes as much attention and talent to plain soil and clay.

The soil samples carefully taken at the Homer Bridge site are hermetically sealed in metal containers immediately.

At the Geocon laboratory, they are catalogued and stored in a special room where humidity is controlled to ensure the samples remain exactly as they were in their original state.

The technicians and scientists at the lab were given certain questions by the designers of the bridge, **Foundation of Canada Engineering Corp.** (Fenco).



WHAT YOU CAN SEE and what you can't see in a soil sample under test is measured and recorded in this Geocon test which determines strength of soil.

Fenco engineers needed the answers to these questions before recommending to the Highways Department the details of the proposed structure.

Fenco is designing a bridge that will fit into the over-all planning of the Ontario Highways Department — one that will meet, in this area, the present and future requirements of Ontario motorists and their touring counterparts from outside the province without interfering with the operations of another great traffic artery, the St. Lawrence Seaway.

This is all to be done at the lowest possible cost consistent with the desired performance.

The key to a lot of this—especially the cost considera-tion — is found anywhere down to 130 ft. below ground at the bridge site.

A generation or so ago, before engineers had the knowledge or the equipment for precise analysis of deep down layers of soil, they had to classify conditions in the area in two sweeping generalizations from the point of view of bridge building: good or bad.

If the soil was "good," it meant spread footings could be used extensively.

If it was "bad" then piles would have to be driven down to solid bearing ground.

Spread footings, which act like highly efficient snowshoes, give an acceptably stable foundation for structures in certain soil.

Their use reduces the cost of the structure considerably compared with piles driven to solid bearing ground.

Many older bridges are supported by the more expensive piles simply because, with the techniques and equipment of the time, engineers could not determine for sure where the "good" left off and the "bad" began, and took no chances.

There are other bridges and other structures under which soil conditions weren't all they appeared to be.

Imperfect knowledge of the soil and soil mechanics resulted in costly delays and costly remedial works on these projects.

So, one question:

What will this soil do under the pressure of high level bridge pillars?

The answer has to be sought in two main areas:

- Strength of the soil — at what point will it shear or otherwise fail?
- Extent to which the underlying soil will be compressed and the rate at which this compression will take place.

To work this out, each test has to be custom-made for each job.

"Soil," says Geocon's district engineer, Victor Milligan, "can't be fitted into tidy classifications as far as its behavior under different kinds of stress is concerned.

"Too much has happened to it in the last 100,000 years or more and the effects can show up when constructors start disturbing things.

"We can't get away with just identifying the type of soil and then consulting tables the way you can with man-made materials.

"Take the test to determine the amount the soil will be compressed, for example.

"Previous tests in another area may have shown that clay of the type we're testing here would settle under a certain pressure, say 1 in. in 10 yr.

"But the clay we're working on may have been precompressed thousands of years ago by glacial action, changing water tables, or any number of things.

"Strange as it seems, the effects of that precompression can show up today in a reaction or absence of expected reaction to pressure from a bridge footing.

"In this case the precompressed clay may settle only a fraction of an inch in the 10 yr. period.

"This is something geological history or soil classification can only partially tell us.

"An accurate estimate has to be determined from experiment in the lab."

Milligan says the Geocon men are all historians in the sense that they research the geological history of an area.

"But because our field is so new, geological history has a large number of gaps as far as regional detail is concerned.

"The work we do on these jobs helps fill those gaps.

"At the Homer site, for instance, we believe we may have uncovered some useful geological information about Lake Ontario's glacial ancestor, Lake Iroquois.

"This has shown up during the course of detailed laboratory work on the soil in the area," he said.

The tests themselves seem comparatively simple.

But the appearance is deceptive.

It's easy to envisage a test to determine the strength of a soil.

Encase the sample in a light rubber jacket.

Duplicate the pressure conditions in the ground by surrounding the rubber cased sample with water and build up the pressure in the water to equal that in the ground, pro rata.

Then apply the pressure representing that of the structure and see how much it will take before failing.

What is not revealed, however, is the technique by which everything that is happening to the sample, internally as well as externally, is recorded and translated into actual "on site" terms for the bridge designers.

Geocon's "Pore Pressure" test, for example, — a substantial refinement of the standard triaxial test to determine strength, and hence, bearing capacity — evaluates not only the visible effects such as bulging and twisting of the sample, but also the invisible ones — the changes in pressure in the minute air and water mass within the sample.

"Detail of this sort is vital," Milligan explains, "for we must be concerned with differences in rates of settlement among sections of the bridge of as little as one or two inches."

Another question: how strong is the soil?—concerns not only what will happen under the bridge footings, but also what will happen to part of the bridge itself — an earth embankment serving as part of the approach to the bridge.

How high can you pile up this particular earth without running any risk of shearing or slides?

Again, how much will the underlying soil settle under the weight of the embankment?

With the answers to these, engineers are proceeding with the design of the bridge.

They know the extent to which the spread footings will settle.

They know the extent to which the embankment will settle and they know the maximum permissible height of the embankment.

With the data developed by Geocon's soil engineers they are bringing all these together so the maximum economies can be made while keeping the differential rates of settlement tolerable.

TRANSPORT ECONOMIST

Nine years experience in operations economics for rail, bus and trucking companies. Specialties: Linehaul studies, co-ordination of transport modes, set-up and analysis of I.B.M. reports, terminal P & L statements, basic and standard costs, some linear programming. Late thirties, single and will relocate.

BOX 415, THE FINANCIAL POST, TORONTO

Port Mann Bridge Trans-Canada Link

British Columbia's next big bridge, the Port Mann bridge over the Fraser River, just four miles upstream from New Westminster, is believed to be unique on this continent with regard to both foundations and superstructure.

To cost around $25 million, the bridge will be a major link in the Trans-Canada Highway system through the Fraser Valley, which continues to the new Second Narrows bridge now under construction over Burrard Inlet in Vancouver and on to the new high-level highway to Squamish.

C. B. A. Engineering Ltd., Vancouver, is consulting engineer in charge of design and construction supervision.

Unique aspect is created by the fact that the bridge has the longest high-level stiffened tied arch, plus a one-half-inch-thick steel deck.

Main advantage of this type of deck is that, together with the main girders, it forms one structure resulting in a great reduction in the weight of the span. Extensive use is beng made of low-alloy steel.

Bridge will be a 6,900-ft.-long four-lane high level crossing of the Fraser River, about 15 mi. east of Vancouver. Main superstructure will span 1,200 ft. with 360-ft. side spans and will have a maximum vertical clearance of 145 ft. above high water in the river.

Road alignment has been designed for a speed of 60 mph and each approach has a 1.7-degree horizontal curve.

Total width of the road deck is 64 ft. which includes two 14-ft. lanes, two 12-ft. lanes, a 2-ft.-wide safety strip, two 4-ft. sidewalks, and two 1-ft.-wide outside curbs.

The first two preliminary contracts, i.e. site preparation, realignment of the main line of the CNR, etc., are completed. The contract for the substructure, first phase, is under way and was awarded to **Perini Pacific Ltd.** The bridge is scheduled for completion in 1962.

In order for the superstructure to have an unobstructed longitudinal line of the bridge deck, the girders are kept outside the railings.

The deck is designed as an orthotrope steel plate which functions at the same time as an upper flange for the 12-ft. deep box stiffening girders. The thickness of the deck-plate does not exceed ½ in.

The shop fabricated units of the deck are completely welded, otherwise the structure, with the exception of a few details, is shop-riveted. All field assembling will be carried out with high-strength bolts.

In the design, a wide use is made of low-alloy steel. Of the total weight of structural steel of approximately 9,000 tons, about 6,500 tons is low alloy, the remainder being medium steel.

The steel deck is covered by a 2-in. blacktop layer of special composition which provides a good adhesion to the steel, and a crackfree and watertight layer, which is of great importance in order to avoid any corrosion of the underlying steel plate.

The sidewalks consist of prefabricated, lightweight concrete units which are fixed to the deck by means of welded studs.

The superstructure of the approaches consists of an 8-in.-thick concrete slab with 2-in. blacktop supported by three main girders and four stringers, the latter being supported by crossbeams.

The main girders are designed as welded plate members in composite action with the concrete slab and are continuous over three spans.

To diminish stresses in the concrete slab at the intermediate supports, the concrete will be prestressed by raising the steel girders at the intermediate supports before pouring concrete and lowering them after the concrete has hardened.

Instead of truss-bracing for sway, a frame construction will be used to facilitate the moving of painting equipment and also to conform to the over-all design of the rest of the structure.

Considerable difficulties have been encountered in the design of foundations for the bridge. The substructures, which are located on layers of peat, sand, silts and clays, to a depth of approximately 200 ft., have vertical loads ranging from 1,000 to 6,000 tons and horizontal loads ranging from 50 to 450 tons.

Substructures and foundations for the bridge include two main span support piers, two anchor piers with reinforced concrete bent structures which anchor the main span, 28 reinforced concrete approach bents which support the approach girders and two reinforced concrete abutments between the approach girders and the approach fills.

Eight of the foundations will be located in the river, two on the river banks and the remainder on low-lying land on either side of the river.

The majority of the foundations will be supported on concrete or pipe piles of varying types with steel sheet pile enclosures around some of the foundations to withstand horizontal loads.

Precast concrete point bearing piles are proposed for foundations where the glacial till is within 100 ft. from the ground surface and short friction or expanded base piles are proposed where the sand layer on top of the sensitive clay is 100 ft. thick and the top of the sand is near the ground surface.

The most difficult piling problem is at locations where the glacial till is 200 ft. below the ground surface and where a 20- to 30-ft.-thick layer of sand overlying the sensitive clay layer exists

(Continued on page 53)

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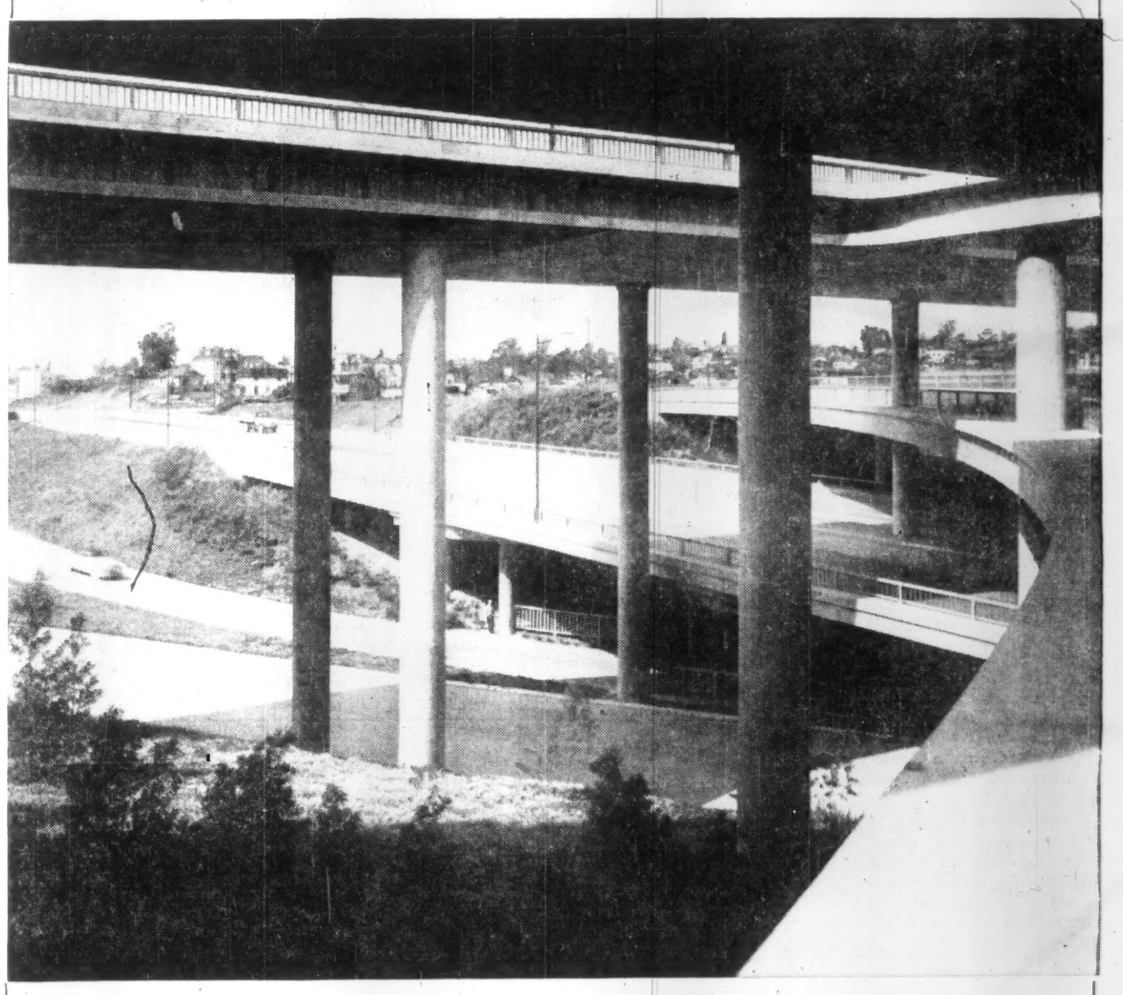

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Safety Council

Gets Industry Backing

Growing within Canadian industrial organizations in recent years has been an awareness of the gravity of off-the-job accidents.

Men are laid up for weeks because of traffic mishaps, families disrupted through highway deaths, plant operations off schedule with workers involved in hospital or court involvement, and a number of other complications directly traceable to faulty driving.

Some industries have inaugurated traffic safety programs of their own. **But probably the greatest evidence of the increasing awareness in industry** is its new support to the Canadian Highway Safety Council.

Recently, the Council has added to its roster of supporters such companies as **Anaconda Brass, Consolidated Mining & Smelting, Dow Chemical, Du Pont, Imperial Tobacco, Mack Trucks, Remington Rand, Simpsons-Sears, Sun Oil, Supertest, White Motor, Dominion Foundries & Steel.**

Added to this is increased support by organizations already solidly behind the Council and its responsibilities. All Canada Insurance Federation, Canadian Automobile Chamber of Commerce and the Canadian Life Insurance Officers' Association are among Council supporters to already substantially increase their contributions, some more than doubling them.

This increased revenue is earmarked for a stronger concentration of effort on the relatively small core of Canadian motorists who cause accidents on the streets and roads. Among the nation's six million drivers, less than 500,000 were involved in accidents or police action last year. But it is that army of what radio's Rawhide described as "incorrigible drivers" that the Council and all the provincial, community and industrial safety groups must reach.

W. Arch. Bryce, executive director of CHSC, has remarked: "We have known that the only way to prevent an accident is to get to where it is going to happen, and that is with the individual.

"Since highway accidents happen one at a time, they must be prevented one at a time, so we try to go to the motorist, or the potential motorist, and try to make him realize his responsibility."

This, said Mr. Bryce, is the reason for the Council's continuing efforts to see driver education in the schools. The young man or woman in high school can rate with the best but he or she, in the high spirits of youth, cannot be expected to understand that the thrill of commanding a motor vehicle is not in reaching high speeds or taking risks but in the ability to drive professionally.

The young swimmer takes no pride in clowning on the diving board of in the water, nor does he rate as a track champion because he can jump hurdles on his hands, or high-jump with a springboard and land on his rump. In any sport he must excel because he was the best. So in driving a car he can only excel by excellence, not by showing off.

The ability is there waiting to be developed, and instruction in the proper way to drive can, carried out even extra-curricularly in school, bring about that development, lower the alarmingly high accident rate among young adults, and make the highways safer for all motorists and pedestrians.

Another major chore facing the Canadian Highway Safety Council and its invaluable cohorts, the provincial, community and industrial safety groups, is the hard-rock apathy of the public toward the highway threat.

The public reads and hears of a disastrous train or air wreck or the loss of scores of lives in a mine or fire, and the public heart bleeds.

On the same page or from the same voice, the public learns of more numerous fatalities on the highway but, because these deaths occur one or two at a time, they are indifferent and cold.

Yet any of the public learning of deaths in traffic might easily be the next victims. It bothers them slightly or not at all, the Council claims.

"Make the highways safer!" they cry, or "Make the vehicles safer!"

Approximately 80% of the fatal accidents on the highways of Canada take place in clear weather. Ira G. Needles, chairman of the Council and chairman of the board, **B. F. Goodrich Canada Ltd.,** says:

"Give a driver a perfect car, excellent health, a smooth, straight road and a bright warm day and he is far more likely to end up in an accident than the driver of a lesser vehicle on a rough, twisting road in a storm." It is not that the first driver did not know what to do; rather he did not do it when he should.

As to the cars themselves, manufacturers have been building safety into vehicles more and more every year. Dual sealed-beam headlights, turn signal indicators, windshield defrosters, dual windshield wipers, heaters, depressed steering wheels, double ball jointed rear view mirror mountings, safety door latches and torsion air suspension are a few of the features, once optional, now standard equipment.

Other safety features, such as padded instrument panel, safety belts, rear window defroster, automatic headlight dimmer, windshield washer, power brakes and automatic transmission are available.

However, if these safety features were to become standard equipment in a car, the customer would find the price of the car increased by nearly $550.

Henry Lee, an electrical engineer with the **Chrysler Corp. of Canada, Ltd.,** said:

Public acceptance of proven safety features does not always come easily."

He gave, as an example, safety seat belts. Sale of safety belts has been relatively small on all makes of cars, and even smaller has been the willingness of the owner to use the belts. **The Council points out that all the seat belts available to a car are of no value whatever unless they are used.**

The installation and use of safety belts in cars has been proven of extraordinary value in saving lives and reducing injury in traffic accidents.

The Council reports almost 60% of all traffic deaths in 1959 involved fractured skulls or spines, injuries preventable by the use of safety belts.

Yet the motorist prefers to ignore them, as he ignores many of the simplest facilities and rules for preventing accidents, injuries and deaths on the highways.

He is not alone. His partner in traffic accidents is the pedestrian. The man afoot sins gravely not only in participating in the actual traffic mishap but in enraging or upsetting the motorist and sending him on as a greater menace to traffic.

In the world of traffic, the safety organization has a growing, vital responsibility. It must not only give relentless attention to the drivers and walkers who cause the accidents but it must never cease its concentration on the potential creator of the traffic accident.

This group includes the 40,000 new drivers to be licensed in Canada each year as well as the 5.5 million who drove in 1959 without tangling with mishap or enforcement.

The work is gigantic, never-ending, and the thousands of Canadians taking part in it are among the most dedicated workers in any field.

In this world of speed beyond sound, of machines beyond imagination and of indifference on the part of most of the people involved in it, the Canadian Highway Safety Council and its collaborators face a formidable task.

Accident Fact Sheet

In 1959 one out of every 197 people was injured in a motor vehicle accident.

There was a person injured every 6¼ minutes all year long. During June, July and August a Canadian was injured in a motor vehicle accident every five minutes.

More accidents occurred between 5 and 6 p.m. than during any other hour.

Thirty-five percent of accidents occur during hours of darkness when less than one quarter of the driving is done.

Out of every 10 drivers involved in accidents in 1959 nine were male.

Approximately 28% of all drivers in accidents were over 15 years and under 25 years of age.

Approximately 10% of drivers involved in accidents were from 16 to 19 years of age.

Approximately 80% of fatal accidents take place in clear weather.

Approximately 30% of all accidents take place between 4 and 8 p.m.

There were 15,000 more motor vehicle accidents in Canada in 1959 than in 1958—an increase of 6.3%.

More than 30% of persons killed were under 15 or over 65 years of age.

About 20% of all accidents happen on Saturday.

About 60% of all traffic deaths involved a fractured skull or a fractured spine.

There were 4,000 more Canadians injured in 1959 than in 1958.

There was a traffic accident which killed, injured or caused damage in excess of $100 every two minutes of every hour of every day in Canada in 1959.

August was Canada's worst traffic accident month in 1959. Over 1,000 persons more were injured in August than in any other month.

From January through June there were 46 traffic deaths per week or approximately seven per day in Canada. In June through December there were 77 traffic deaths per week or 11 per day in Canada.

Canada's 30 cities with populations over 40,000 accounted for less than 15% of the traffic deaths and represent 35% of Canada's population.

Proposed Port Mann Bridge

(CONTINUED FROM P. 52)

some 50 ft. below the ground surface.

A static head of up to 28 ft. of water was encountered in the test borings at the point of contact of the clay layer and glacial till.

At these locations it is proposed to prebore oversize holes down to the glacial till and then drive 24-in. diameter pipe piles a short distance into the till.

In order to prevent negative skin friction from loading the pipe piles as a result of settlements of surrounding soil, the piles will be coated with a soft asphalt and surrounded with a clay cement grout mixture which would be pumped into the remaining space inside the prebored hole. After driving is completed, the pipe piles would be filled with concrete.

The entire foundation including the pile caps will then be established free and independent of expected settlements of the intervening soil layers.

Motor Club Backs Road Plan

(CONTINUED FROM P. 45)

more clearly defined responsibilities could pave the way for a national road system. The urgency for such a system should be recognized by all levels of government.

- **To make policies for regional problems, national problems,** and clearly defined financial policy, should be uppermost in federal planning.
- **The CAA suggests that the nearly completed Trans-Canada Highway** should be used as a model for increased cooperation in the development of a national roads system.

The CAA has found wide support for its brief from provincial governments and interested private and public organizations.

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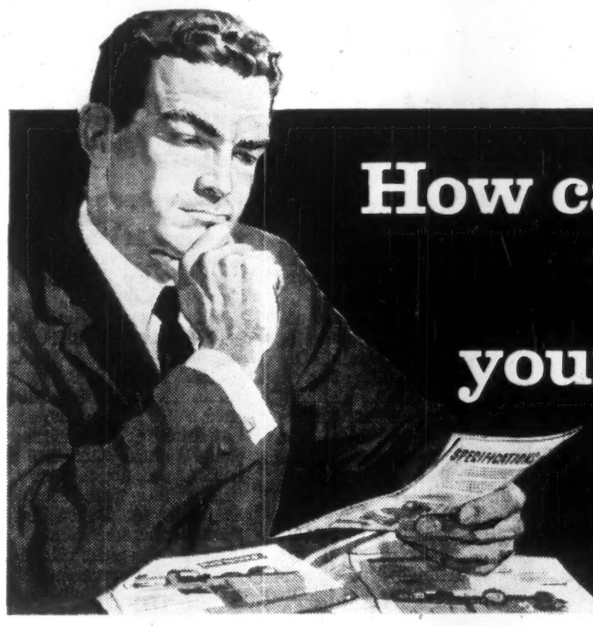

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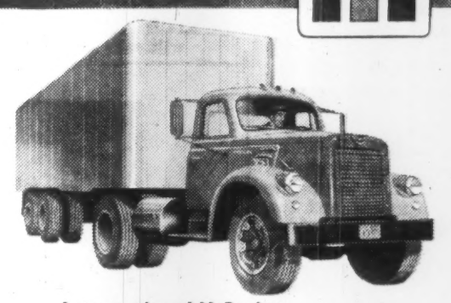

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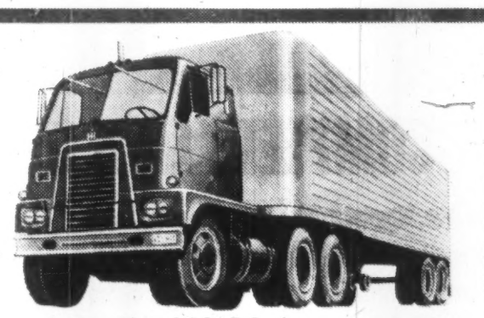
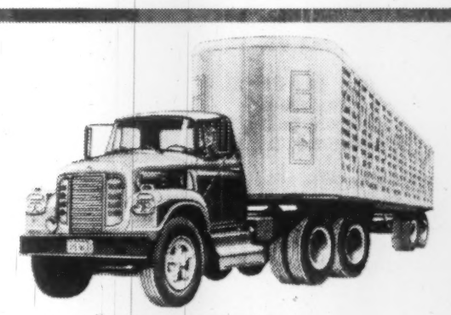
International COF-Series
Cab-over-engine, 6 or V-8 gasoline or diesel from 50,000 to 65,000 GCW



International DCOF-Series
Extra heavy-duty, Rolls-Royce diesel engine from 50,000 to 65,000 GCW



International ACF-Series
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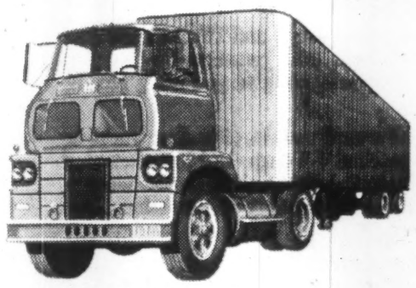

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Road Research

$1 Million Still Too Little

Twenty years ago, formal highway research was almost non-existent in Canada.

Last year, Canadians invested close to $1 million in the scientific search for answers to the problems facing what has become a $1,000-million industry affecting the livelihood of one out of every seven employed persons across the country.

"Road Research in Canada", the first authoritative national survey of current road and street research activity made by the Canadian Good Roads Association, lists more than 150 projects now under way or completed within the past five years.

Subjects of the studies range from the economics of highway freight haul and the design of pavements to the determination of a city's traffic distribution.

Originators include provincial highway departments, municipal road departments, federal government agencies, universities and industrial research organizations.

The $1 million currently being invested annually in road research represents only one-tenth of 1% of the total government outlay on roads and streets during the same period. In the fiscal year ending Mar. 31, all Canadian governments spent an estimated $1,157 million on roads and streets.

The survey terms the research effort in this country "encouraging, when compared to the recent past but undoubtedly still too small."

The current rate of investment in road research in Canada is half that in the U. S. It is also considerably lower than in private industries where research development costs average more than 1% of the total annual budget.

The first national report on road research was published by CGRA in 1959 to provide highway engineers with information on the latest findings in the field and to speed up the practical application of research results to current road construction and planning.

The survey is one of many projects undertaken by CGRA in line with its aim of advocating the development of technical skills in all branches of the road sciences through the dissemination of information and the encouragement of learning.

An industrial scholarship program, administered by the Association, has been in operation since 1951. A total of 24 young Canadian engineers have undertaken postgraduate study and research in the highways and highway transportation field after receiving the scholarships.

Six scholarships with a total value of $12,000 will be awarded again this year.

An active program of study and research into many of the most pressing problems of road transportation is carried on by the association through volunteer workers.

In September, a new committee on bridges and structures was added to the eight technical committees already functioning.

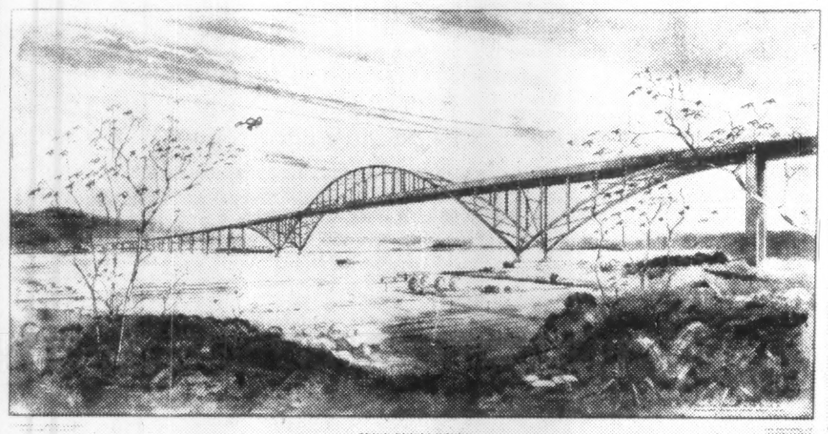
Subjects under constant review by these committees are: construction and maintenance; economics, finance and administration; planning and design; soils and materials; municipal roads and streets; safety education; traffic and operations.

Two special committees have been set up in recent months. The first, the committee on pavement design and evaluation, is now conducting a nationwide evaluation of highway pavements through the co-ordinated investigation of provincial highway departments.

The second, a sub-committee of the planning and design committee, is expected to produce within three years a manual of geometric design standards for all roads and streets in Canada.

The association is also an active participant, through its engineer-observer and a Canadian road test observer committee, in the $22 million road test being conducted by the American Association of State Highway Officials. Results of this major road durability test will be made available to Canadians through the association.

Numerous technical publications are produced annually by CGRA, including highway budget survey and analysis. In addition, a technical road library and information service are operated by CGRA headquarters.



SKETCH OF NEW Port Mann bridge over Fraser River near New Westminster which will cost $25 million and incorporate features said to be unique on continent.

GM, Canear Sell Buses To Winnipeg

Greater Winnipeg Transit Commission has awarded two contracts totaling $1,125,000 for 35 51-seat diesel buses, 10 from **General Motors** and 25 from **Canada Car & Foundry Co.**, Montreal (FP, Jan. 30, March 12).

Delivery is being made this year, starting in late July.

The General Motors vehicles are being turned out in the U. S.

With duty and other charges the price was about $1,200 per vehicle more than for those manufactured in Canada.

In the call for tenders bids were received from two firms in Tokyo.

Their quotations were about $10,000 per vehicle less than those of the successful tenderers.

The Japanese bids were carefully considered but rejected for two reasons:

- **They didn't** meet specifications of the commission.

One Tokyo firm quoted on a 45-seat bus, the other on a 46-seat bus.

- **Uncertainty** in getting parts replacements and prompt service facilities.

Planning Ahead

Looking ahead, Canadian Good Roads Association has planned its convention locations for the next nine years. Here they are:

1960—Oct. 17-20, Royal York Hotel, Toronto.
1961 — Sept. 12-15, Banff Springs Hotel, Banff, Alta.
1962 — Oct. 1-4, Chateau Frontenac, Quebec City.
1963 — Oct. 1-4, Royal Alexandra, Winnipeg.
1964 — Oct. 6-9, Queen Elizabeth, Montreal.
1965—Sept. 27-30, Hotel Vancouver, Vancouver.
1966 — Oct. 11-14, Royal York Hotel, Toronto.
1967 — Sept. 12-15, Banff Springs Hotel, Banff.
1968 — Oct. 1-4, Chateau Frontenac, Quebec City.

Alberta Truckers Seek Reciprocity

Alberta's motor transport industry provides a good slice of revenue for the provincial government.

Last year, this revenue was estimated at $6.5 million.

This year, the government is banking on still greater returns from the trucking industry and has included $7.1 million in the current budget as estimated revenue from the truckers.

The government's confidence is based largely on the growing number of licensed trucks in the province.

At the end of 1959, the total was 136,711, compared with 132,425 at the end of the previous year.

While truckers continue to move a heavy volume of Alberta freight and merchandise, officials of the Alberta Motor Transport Association have expressed severe criticism of weight restrictions and licensing penalties in the sister province of Saskatchewan.

Alberta has no reciprocal agreement with Saskatchewan in regard to motor transport operations.

Jack Taylor, of Calgary, managing director of the AMTA, has claimed that Alberta truckers spent more than $4.7 million in the U. S. last year because they were forced to detour when hauling goods to eastern Canada.

He blamed this on the Saskatchewan restrictions and licences.

In the various states, the Alberta truckers had to purchase more than four million gallons of diesel fuel and gasoline.

Gordon Taylor, Alberta minister of highways, also has been critical of the present situation.

He says Alberta truckers are turning to U. S. routes to go east and return west because Alberta has reciprocal license arrangements with 28 U. S. states.

Only the Maritimes among the Canadian provinces have agreed to full reciprocity with Alberta.

"On the Trans-Canada Highway there should be free movement for trucks as well as cars," says the Alberta minister.

"Alberta has offered full reciprocity four or five times to other provinces.

"British Columbia is not interested.

"We have half reciprocity with Saskatchewan and Manitoba.

"We have reciprocity for only furniture and farm vans with Ontario and Quebec."

Full reciprocity would mean trucks with Alberta plates would be free to travel over the highways of other provinces without special fees.

The lack of full reciprocity in Western Canada is limiting the benefits that the west is receiving from the St. Lawrence Seaway, Taylor said.

Officials of the AMTA are incensed also over the system of "agreed charges" between the railways and various business firms.

They claim that the railways are trying to force them out of business.

Earnings of some truckers were hit hard last year.

The AMTA, stressing the growing importance of the trucking industry, has urged the provincial government to establish a separate department of transport under the jurisdiction of a minister of the Crown.

Early this year, the provincial government raised the load limit from 62,000 lb. to 72,000 lb. for trucks with proper axles and tires operating on the main north-south route through Alberta.

This was allowed on a three months' trial basis.

The AMTA has recommended that the 72,000 lb. limit be granted permanently for five axle-units on designated Alberta highways.

The AMTA also has asked that the maximum gross weight of 45,000 lb. be increased to 56,000 lb. on certain designated highways.

For the last 15 years, motor trucks in Alberta have been compelled to carry flares.

Now the AMTA is asking that this regulation be extended to all automobiles.

Many Alberta truckers were enabled to continue operations during the winter months.

The sum of $4 million was provided by the provincial government for truckers to haul and stockpile gravel for the 1960 highways program.

Alberta truckers have been commended on their steadily improved safety record.

Since 1937 the number of accidents per vehicle-mile has been cut almost in half.

In 1937, there were 17.3 accidents for every 100,000 vehicle miles.

By 1957, this rate had been reduced to 9.2.

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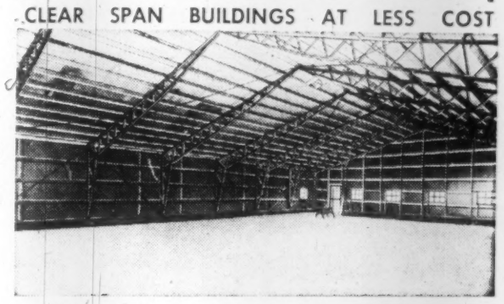

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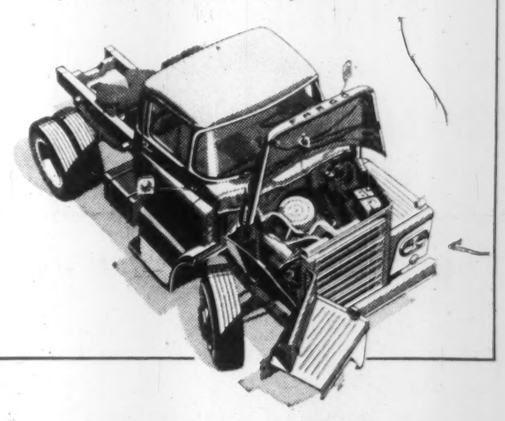

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Roads to Riches Canada's Big Drive

Resources without roads to link them remain an asset frozen . . .

Hon. Alvin Hamilton, Minister of Northern Affairs and National Resources last month outlined for Canadian Good Roads Association members details of the roads to resources program. Here's a condensed report of what Mr. Hamilton had to say.

If any country has a bigger stake than Canada in roads—roads to resources—it has yet to be shown on a map.

Roads and resources are inseparable. Neither can prosper, far less survive, without the other. A road that did not serve some national resource, some national interest, would be purposeless, empty, a ghost road.

A resource without a road to link it with discovery, production, distribution and use, remains an asset frozen within its environment.

In Canada, most of our ranking resources have always let forces of exploration and development into formidable country—rock, bush, muskeg, permafrost. There has always been the added element of immense distances.

We have almost always had a long way to go for our most prized resources and a long way to bring them out when we have found them. Our minerals and timber stands, even the great fish harvests of salt and fresh water, have seldom promised development without tough, patient, well-planned effort.

Search and development under challenging conditions are part of the adventure of being Canadian. This is still a country where, unless a man's reach exceeds his grasp he is turning his back on opportunity.

So it is throughout the field of resource development. The government did not propose the roads to resources program to the provinces because it was easy but because we believe the provinces recognize it as an opportunity.

We knew the program would give the provinces the chance to open up resource areas of promise with roads that, unaided, they might not be able to build for years, perhaps not at all.

By mid-summer the roads to resources program had begun to get under way in eight provinces. By the end of the year it was active in nine. **Quebec is studying the proposals but has not yet found itself in a position to suggest a roads to resources program.**

For those who have not been connected with our negotiations, it may be useful to clarify the reasons for the difference in time between the dates when the program began to go into effect and the dates when the formal agreements were signed.

A considerable period was bound to elapse between these two stages. It is one thing to agree in principle and another to get down to particulars.

Roads to resources is not a program designed to assist the provinces to meet their normal highway commitments. It is an offer to assist them with roads that they would not otherwise have built. Not at this time, at least.

They were asked to take the initiative in proposing routes and it will be a provincial responsibility to maintain the roads after they are built and to undertake any subsequent work that may be required to improve their standards.

We are not engaged in the construction of superhighways but of roads as good only as they need to be for the purpose for which they are intended. This is not a project aimed at solving any part of Canada's public transportation problems but to provide roads that adhere to the pioneer principle of opening up a promising area.

Not all the mileage will be built to this basic utility standard because a number of the projects that have been approved are more advanced. But always fitness for the job of helping to develop a promising resource is the criterion, with as many miles as possible for the money.

A great deal of care has been taken on the engineering studies of roads into new regions for a fairly self-evident reason. **The most important first step is to create the means of access and to build this in the best place.** Then, if the locations have been well-chosen, it becomes no great problem later on to bring the traveling surface up to any desired standard.

When the provinces had their plans ready, these were forwarded to Ottawa for study by the Interdepartmental Roads Appraisal Committee, a small continuing body with power to add to its numbers, that act in an advisory capacity to the Minister.

The permanent members are drawn from Northern Affairs and National Resources, Public Works, and Mines and Technical Surveys. Additional government advisors are available to the committee in other resource fields, mainly fisheries, forestry, and the tourist industry, when their advice is sought.

A great deal of correspondence developed, of course, once programs were submitted and there were a very large number of economic surveys and reports to be considered.

Canada, topographically speaking, is not a country that goes out of its way to make things easy for a roadbuilder and the resources development picture is not the same in any two provinces.

While mining, forestry, fishing and recreation are the principal resources these roads will benefit, conditions vary a great deal among provinces and every program had to be given detailed individual study. It is not difficult to understand why the formality of signing the agreements did not, in most cases, take place until work was well on the way.

Originally, the government had conceived of this as a five-year program. But as we began to work out the details together it became clear that so rigid a term might become a financial and administrative straitjacket that, in some cases, would make it extremely difficult for a province to participate.

As our plans developed so, too, did more flexibility in the time schedule. The overall average is now about eight years. A few provinces may have completed their work sooner; others are bound to need more time.

If expenditures by some of the provinces on the program exceed $7.5 million, this will not affect the total federal contribution, which remains at $7.5 million.

The government, of course, was well aware, in proposing this 50-50 cost-sharing offer to the provinces, that in some instances a province might wish to build a road in an area where a degree of development was already going on.

While we were not prepared to contribute half the cost of roads so short that they would be well within the normal highway budget of the province or that of a company operating in the region, we were willing to consider contributing one third of the cost, considering each case on its merits, in terms of the particular projects.

Within the original financial proposal, from which the federal government has not deviated, we wished to achieve a maximum flexibility so that as much mileage as possible could be built—or started—as quickly and as efficiently as possible.

When the roads to resources program is completed, more than 4,000 mi. of roads will be providing new, or better, access to now hard-to-reach resources. Or not far off the distance—if this were all one road—from St. John's to Victoria.

Yet mileage alone is not a factor to become carried away with in a country like Canada. Construction of 100 mi. of road compared with 10 may only mean that the 100 lay through country 10 times as favorable for road building.

This can be tough country on the engineers.

The real achievement is not how many miles are built but where the mileage is located. In some more southerly locations 50 mi. is routine; in the northern half of the provinces five miles can be an achievement.

As the program stands to date, the federal and provincial governments are making, jointly, a $145 million investment in roads with a future.

It's important to stress another of the guiding principles in our discussions with the provinces. While improved access will undoubtedly benefit the development of some specific resource in every province, the main emphasis in the choice of routes is on **the development of an area as a whole.** In some cases this means opening it up to permanent settlement. In all cases, it should reflect some lasting benefit to the economy rather than tie development to single resource that may become worked out within a fairly brief term of years.

In a working sense, all these roads can be termed development roads, for a resource without the prospect of development is no resource at all. It may be this fact that has caused the roads to resources program to be sometimes identified — incorrectly — with the program of development roads that the federal government is undertaking in the Yukon and Northwest Territories. These two programs are quite distinct, as their location and method of financing indicate.

Roads to resources is a cooperative program to which the federal and provincial governments undertake to contribute jointly $15-million throughout the life of the agreements. Capital investment in the northern program, on the other hand, is wholly a federal responsibility.

There are a number of other and clear distinctions but perhaps the one most easily grasped — next to the method of financing — is the type of development each has as its objective.

Roads in the north are likely to be concentrated in the main on the development of mining, oil, and gas, and on providing improved access between north and south and within the north itself. Roads to resources, on the other hand, have a more accessible area to serve where the task of linking even a remote region with a larger centre of population is hardly comparable to doing the same thing in most parts of the Yukon and Northwest Territories.

Yet though these programs are distinct they are by no means unrelated. In the western provinces, the federal government has a particular interest in the roads to resources plans of the provinces wherever these may link up with the territorial road program.

In northern Alberta, for example, the two governments have agreed to spend the whole amount of $15-million over the next six years on two major projects —some 300 mi of reconstruction work on the Mackenzie Highway from Grimshaw to the Northwest Territories boundary (where this connects with the federal portion of the road); and improvement, and new construction, of a road from High Level to the west boundary of Wood Buffalo National Park, a distance of 130 mi.

In British Columbia, first province to sign a roads to resources agreement, the 255 - mi. Stewart - Cassiar Road will, when it is finished, connect with communities in the Yukon. This road will open to development the resources of a large but comparatively remote region, providing access to tidewater for much of the area east of the Alaska panhandle and a direct link with a Canadian harbor for the asbestos mining operations at Cassiar.

It is not my intention to go in detail into the program as it has been planned for each province. Nor can one make any sensible comparison between the type of resource being developed in one province and the work being undertaken in another.

How can one compare the 385-mi. God's Lake Road that the government of Manitoba is building to benefit the highly diversified resources of the region with the four separate projects that the province of Nova Scotia is planning for the spectacular and historic Cabot Trail? Yet both roads run true to the spirit—and the terms—of the program. Each is required to further the development of some ranking provincial resource.

Nor would it be accurate to give the impression that while the main emphasis of the programs in Ontario, Manitoba, and Saskatchewan is on mineral development, that mining will be the only beneficiary.

Far from it; the picture is a great deal more varied. Forestry, commercial and game fishing, fur-trapping and the tourist industry all enter into the provincial plans.

In the Atlantic provinces, where the tourist industry is a major resource, hundreds of miles of roads will be devoted to opening up new areas, or providing improved access to them, in the interests of tourism. This is particularly true in Nova Scotia and Prince Edward Island where tourist development predominates in the programs.

Yet to convey the impression that this is true in all the salt water provinces would be misleading and false. In New Brunswick and Newfoundland the roads that the governments are building will tap a highly diversified cross-section of the economy —mining, forestry, commercial fishing, pulp — as well as to make important contributions to the tourist industry.

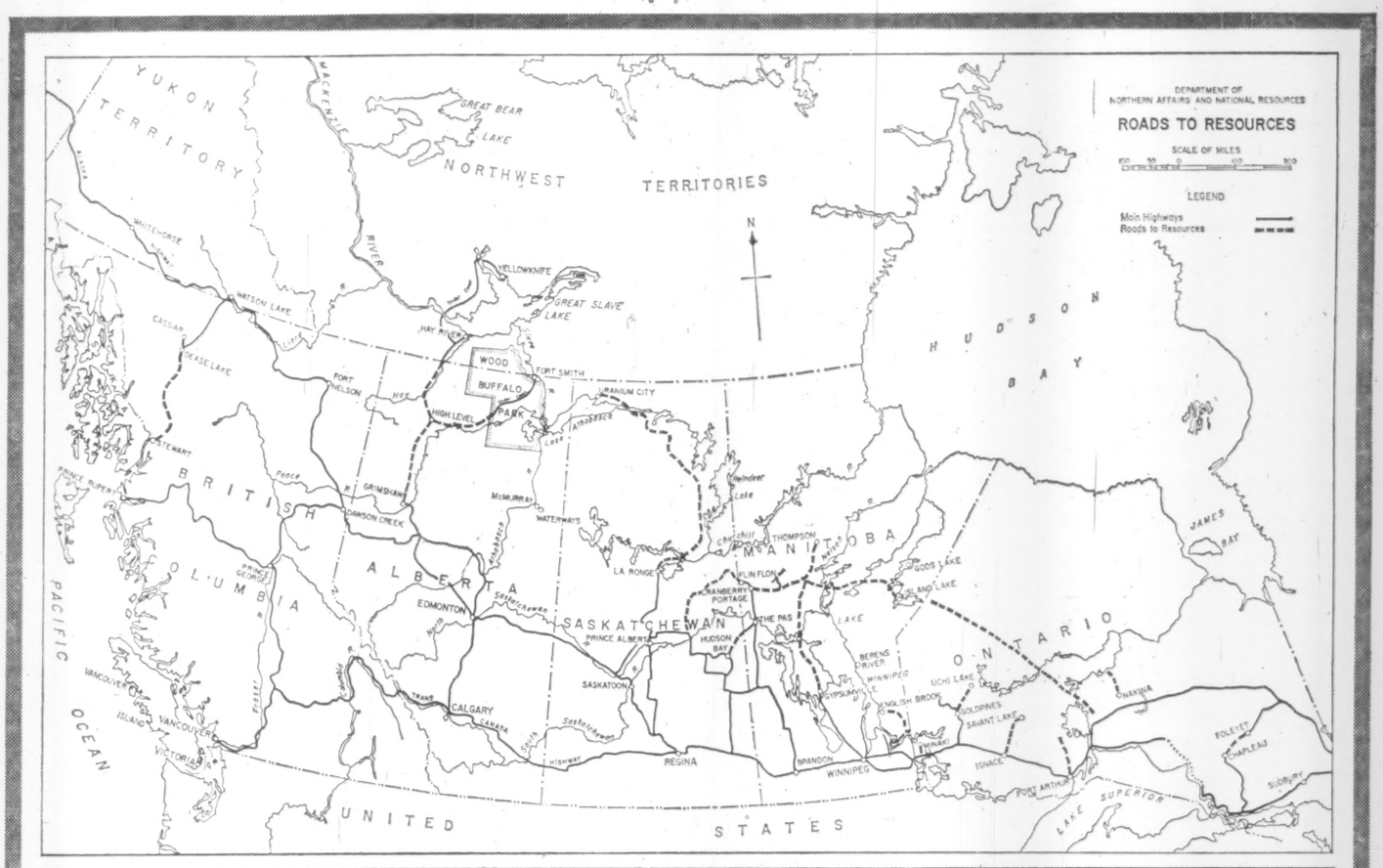
The federal government's underlying purpose in this whole program is regional development, benefits that will accrue to the area as a whole.

With the provinces of course, rests the responsibility for planning, construction, and maintenance of roads. Normally road-building is a field in which the federal connection is limited mainly to friendly interest and admiration for what the provinces are accomplishing in this complex and demanding field.

It is indeed no light task to provide with anything approaching adequacy for the immediate future, far less for the long-term highway needs of this young, dynamic country. It is no longer enough simply to try to keep up with the main traffic; there is the urgent obligation to move into areas still remote and connect them with the main arteries of national development.

These are regions we dare not leave untapped. For in our natural preoccupation with urban development, with the more visible areas of Canada's growth and vigorous economic expansion, we live with one fact of life that we dare not ignore, a fact that is becoming more and more central to the course of national development:

- **In the northern half of our provinces,** and in the northern territories, lies more than three million square miles where, for enormous areas, the only life is wildlife.
- **In a land where nine tenths still waits to be brought within range** of economic development, it is always later than we think.



Four Thousand Miles of New Roads to be Built in Roads to Resources Program

PROVINCE	EST. COST	MILEAGE	START DATE	TERM OF YRS.
B.C.	$20,000,000	255	Aug. 21, 1957	Five
Alta.	20,000,000	430	Apr. 14, 1958	Seven
Sask.	20,000,000	824	May 5, 1958	Eight
Man.	19,370,000	688	May 27, 1958	Eight
*Ont.	7,500,000	335	Nov. 6, 1958	Nine
N.B.	18,000,000	432	May 1, 1958	Ten
N.S.	17,100,000	465	May 2, 1958	Eight
P.E.I.	15,435,000	438	July 2, 1958	Eight
*Nfld.	7,767,500	304	June 26, 1958	Eleven
	$145,172,500	4,171		

*The agreed total to date. A residual clause in the agreement permits further projects to be added.

WHEN THE ROADS to resources program is completed, more than 4,000 mi. of roads will be providing new or better access to now hard-to-reach resources.

Roads to Resources Program

Province	Estimated total cost of program	Approximate mileage	Commencement date	Term of years (exclusive of possible extra years)
B. C.	$20,000,000	255	Aug. 21, 1957	5
Alta.	20,000,000	430	Apr. 14, 1958	7
Sask.	20,000,000	824	May 5, 1958	8
Man.	19,370,000	688	May 27, 1958	8
Ont.*	7,500,000	335	Nov. 6, 1958	9
N. B.	18,000,000	432	May 1, 1958	10
N. S.	17,100,000	465	May 2, 1958	8
P. E. I.	15,435,000	438	July 2, 1958	8
Nfld.*	7,767,500	304	June 26, 1958	11
	$145,172,500	4,171		

*The agreed total to date. A residual clause in the agreement permits further projects to be added.

Technology

Reduces Ontario Unit Costs

Unit costs for road-building in Ontario are generally lower now than they were 10, 20 and, in some cases, 50 years ago.

For instance, in 1938, earth excavation cost 50c to 60c cu. yd. on provincial government contracts.

Twenty years later — in 1958-59 — the cost of earth excavation was 40c cu. yd.

This is a drop of 28% from the average price of 20 years before.

Between 1950 and last year, the average price for earth excavation has been 43.7c.

Only once has it risen as high as the pre-war 60c and once the yearly average was 36c cu. yd.

There is no secret about how this has happened.

Intense competition coupled with advances in road building technology are the ingredients in the formula which have created this situation.

With the advent of modern equipment, production increased considerably.

But the technology that allowed the reduction in unit prices in road building has been available to all industry.

Yet, in how many major industries has a resultant increase in production brought a similar 28% reduction over 20 years?

Similarly, rock excavation cost from $2 to $2.25 cu. yd. in 1938.

Last year the average price for rock excavation in the province of Ontario had come down to $2.07.

Anyone familiar with rock excavation knows the reason for the reduction — advances in technology again.

Tungsten carbide bits and improved explosives along with more productive removal methods have been responsible.

There is a parallel here with the mining industry. Tungsten carbide bits, new explosives and more efficient methods of removal have contributed to the mining effort as well.

As example of increased production, in 1923, **Grant Construction** gained the record for the year with a day's asphalt production of 300 tons. Now, 1,200 to 1,800 tons is the norm for a day.

Asphalting equipment, as has all other road building equipment, has seen considerable price increases.

For instance, in 1938, an asphalt plant cost $90,000.

The same plant is valued at $165,000 today.

In 1935, an asphalt spreader could be bought for $5,500. Today the equivalent unit sells for $24,000.

These unit costs don't mean much until they are related to a job.

Here is an actual job done for Ontario's Department of Highways by **Warren Bituminous Paving** back in 1927.

It was a section of Yonge St. between Aurora and Newmarket.

That year Warren did the required earth excavation for 75c cu. yd.

Asphalt was laid for $7.74 a ton for the 1 in. surface and the base asphalt for $3.75 a ton.

Thirty years later the same company did a similar job on Yonge St. between Bradford and Newmarket — just ¼ mi. north of the first job.

Thirty years later the earth excavation was completed for 31c cu. yd.

The asphalt surface was laid for $4.38 a ton and the base was put down for $3.34 a ton.

In the time that had elapsed between the first and the second job, the price paid for earth excavation had come down by more than 59%. The top course had dropped by 43%, and the base had fallen 11% from the level of prices paid for the equivalent work 30 years earlier.

Yet the road contractor's costs have seen the same increases that every other industry has experienced.

For instance, since 1938, the price of his labor has jumped 400% — from 40c hr. then to $1.60 hr. last year.

Add to this the cost of vacations with pay, unemployment insurance, hospital insurance and other benefits and it is boosted still further.

Despite his increasing costs, most aspects of the road builders' work have shown reductions in cost.

In 1938, concrete in culverts cost between $40 and $45 cu. yd.

In 1948, it was going for between $30 and $35.

In 1958-59, concrete in culverts featured in road building contracts had again come down to $26.79 cu. yd.

Similarly, in 1938, concrete in structures cost between $50 and $55 a cu. yd.

Ten years later the price had dropped to $45 and $50.

By 1958-59, the price had again fallen to $31.98.

One of the few prices that hasn't fallen below its pre-war level is that of crushed gravel.

In 1938, ⅝ in. gravel was going at $1.25 a ton.

Ten years later the price was unchanged.

Today grade A is $1.20 a ton and grade B is $1.27, which averages to slightly less than the pre-war figure.

The same situation of falling unit prices applies to municipal road-building as it does to the building of provincial highways.

Toronto's Jane St. between Bloor and Dundas was originally paved in 1925.

The contractor was paid $16.20 a ton for asphalt for that job.

In 1949, the same section of Jane St. was paved again.

That year the contractor was paid $8.25 for the base course and $9.90 for the surface, making an average of $8.64 a ton — about half of what had been paid for asphalt 24 years earlier.

A similar situation has applied in concreting.

In 1925, the contract for catch basins in one section of Toronto paid $85.

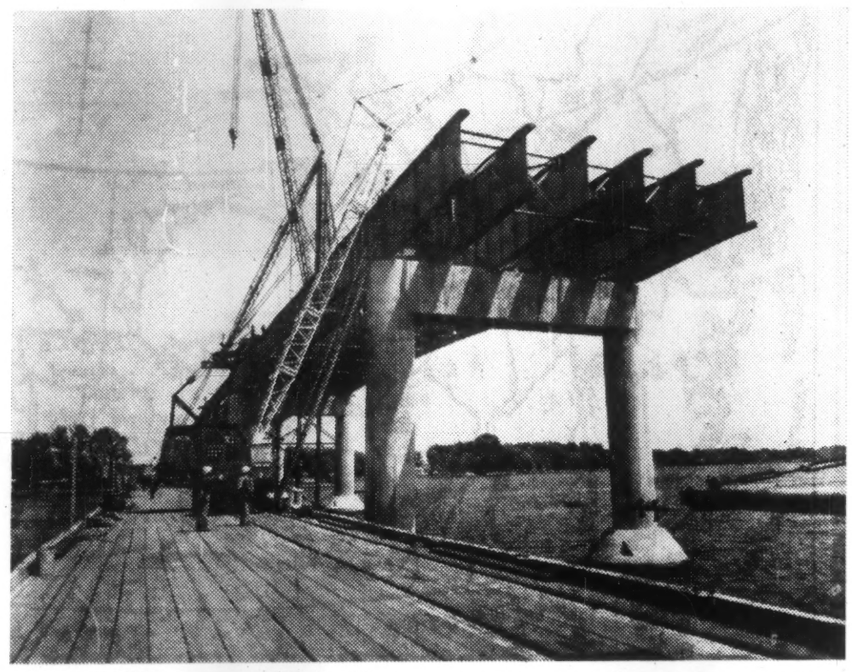
In 1959, a contractor won the contract to break out the same catch basins and build new ones.

The contract allowed him only $110.50 for the job.

In 1902, the going rate for curb and gutter in Toronto was $2.25 ft. In 1959 it was $2.65 ft.

In 1902 a laborer earned 25c hr. Last year it was $1.60 an hour.

A contract requiring such basic work as curbs and gutters perhaps emphasizes the reducing margin between the cost to the municipality or province and the price paid to the contractor.



ST. JEAN BRIDGE over Richelieu River under construction. Two girders were spliced end to end on runway alongide then hoisted as one unit by crane.

The methods of laying curb and gutter hasn't seen a basic change in the half century in question.

In concreting, other basic costs to the contractor have shown a marked increase in the 20-odd years since the war.

Cement is up by over 100%.

In 1938, it cost $1.67 bbl. Today, it is priced from $3.75 to $4.10 bbl.

Since 1938, the cost of stone has risen 60%, the freight rate is up 30% and now there are additives required in concreting that were unknown 20 years ago.

In 1950, the Ontario Department of Highways began recording an index of tender prices paid on road contracts setting the dollar value of their 1950-51 fiscal year at 100.

The graph begins with an upward climb reflecting the recovery from the pre-Korean recession.

An example of how sharp that recovery was is illustrated by one contractor who had a contract on the Toronto Subway.

He began it before Korea and bought equipment for the job.

Three years later he sold this equipment for what he had paid for it originally.

This contractor benefited.

Those who had to buy quantities of equipment then were hit with the other end of the stick.

The cost of everything went up and the climbing index reflected these increased costs.

In 1951-52, the index had reached its first peak and during the next two years it began to fall until in 1953 it was only 7.8 points above the starting level of the index.

Two major advances in road-building technology allowed the index to fall.

These were the tungsten carbide bit, which contributed to greatly increased production in rock excavation, and the coming of the rubber wheeled equipment.

Improved explosives also made their contribution.

In 1954, the index again began to rise.

This rise is attributed originally to the cost of labor, equipment and materials using up the benefits of the advances in technology. And from 1955 to 1956 the index continued to rise to a high of 156.8.

In this period, there was an increasing demand for the contractors' services along with the increasing prices which sent the index soaring.

At this time, the major work on the St. Lawrence Seaway was being done, the Ontario highway program was getting into top gear and the natural gas pipeline was being laid. There were fewer bids for highway contracts than in most years.

Then, once again, the index began to fall.

This time there had been no break-through.

There had been no break-through to equal that caused by the introduction of tungsten carbide bits and the rubber-wheeled equipment.

Each contractor had a greater capacity for work but there was less work to be done.

The only major projects in the province were those under the control of the department of highways.

Harold McNamara, president of **McNamara Construction Ltd.**, commenting on the prices paid during 1958-59, said:

"I don't know how anybody building roads alone can continue to survive.

"For instance, I think it's common knowledge that no one can move rock for $2.07 and make a profit.

"None of the prices over the last year allow a profit," he said.

"For some reason, the construction industry seems to be ashamed to say that it's in business for profit."

"Now, if costs are down it's because contractors are taking a loss," says S. C. Cooper, vice-president and general manager of **C. A. Pitts General Contractors Ltd.**

Many contractors complain that the present slump in prices is caused by those who bid for contracts while considering rental for equipment as profit.

Others cut prices rather than allow their equipment to lie idle.

Before putting a contract up for tender, the Department of Highways itself estimates a job.

If bidding is 20% below the department's estimate, they estimate again.

If it is 20% higher they do likewise.

This allows the contractor a margin of 20% within which he can bid.

Present prices suggest that the bidding falls within the department's bottom range.

At a time when Ontario's road-building program is operating at full steam, the road building industry is a little less than healthy within the province.

This situation bodes well for neither.

There's reason to believe that the government would not object to paying more for the province's roads in return for a healthier body of contractors.

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B. C. Rules Out Direct Debt

The British Columbia government has passed a bill authorizing the British Columbia Toll Highways & Bridges Authority to borrow another $20 million, to a maximum of $120 million.

Opposition members again derided Premier W. A. C. Bennett's contention that British Columbia is debt-free, as the recent session of the legislature drew to a close.

Members of the CCF opposition spoke against Mr. Bennett's bill to wipe out the government's borrowing powers.

Then they stood to a man, with the government and the two Liberal members, to support it.

The premier and his Social Credit supporters insisted that the province is free of direct debt.

Oppositionists declared that the premier had loaded the government's "children" —the Toll Authority, the British Columbia Power Commission and the **Pacific Great Eastern Railway**—with $500 million debt.

This exceeds the directed debt that has been retired.

North American Van Lines operators join the trend to Mack diesel power

Typical of the growing trend among long-distance haulers of high-cube loads is the enthusiastic acceptance of Mack Thermodyne® diesel tractors by owner-operators for North American Van Lines, Inc., Fort Wayne, Indiana.

More than 160 Mack vehicles are in operation at North American, and owner-operators state emphatically that they are unexcelled in fuel and maintenance economy . . . power to haul high-cube loads . . . and long-lived, trouble-free performance.

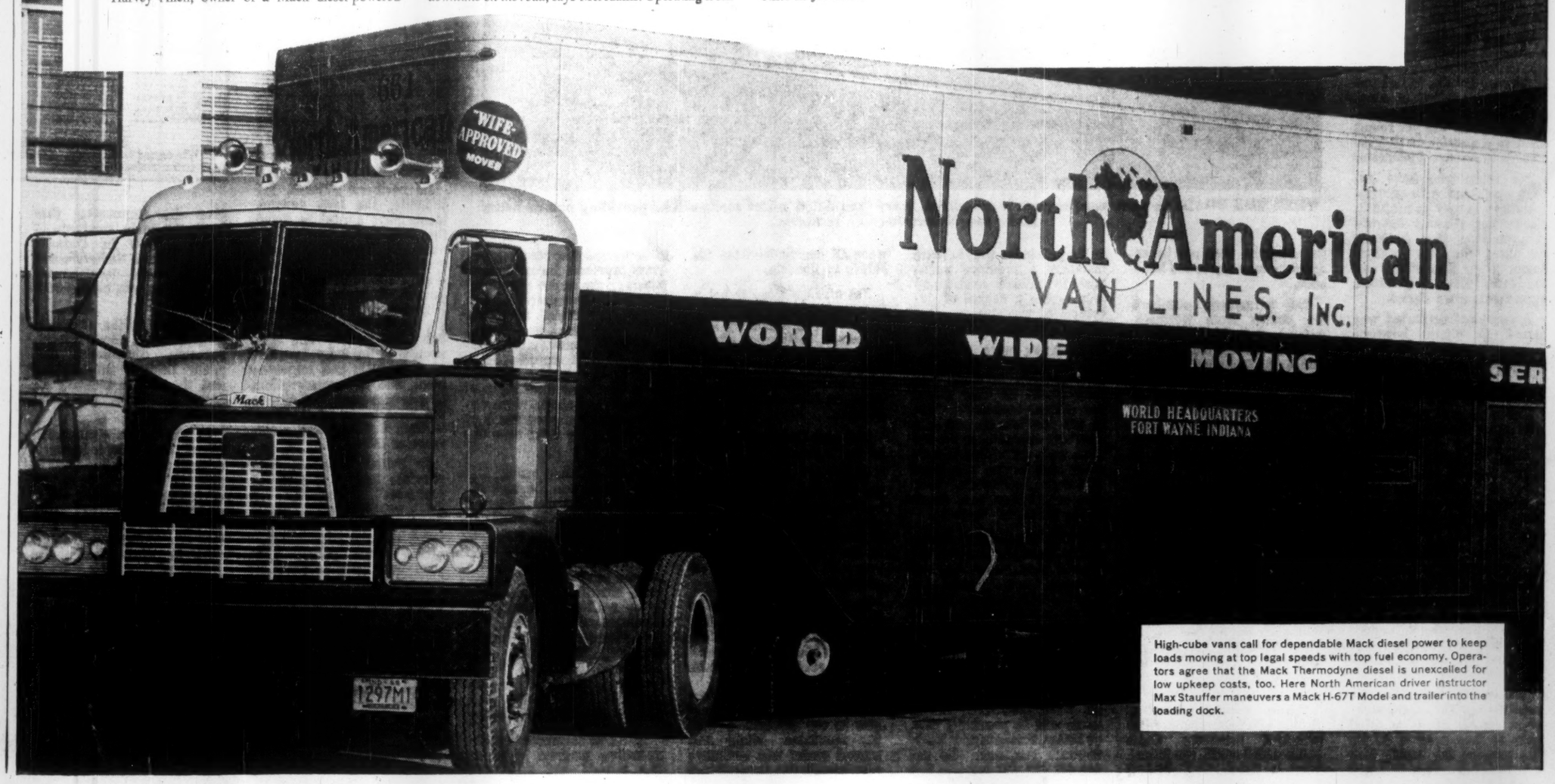
Harvey Allen, owner of a Mack diesel-powered B-61T Model, for example, reports operating costs *slashed by over 35%* compared with the tractor he previously used, as well as fuel mileage in excess of seven miles per U. S. gallon as compared with a former four mpg. Says Allen: "I am spoiled by Macks and will never buy another make of truck. Right now I am expecting delivery of a new G Model tractor."

Mack H-63T owner Wayne McAdams is equally pleased with the performance of his diesel unit. It has hauled more than 200,000 miles *with absolutely no downtime on the road*, says McAdams. Operating from coast to coast in all kinds of weather and over all types of roads, it averages a steady seven miles per U. S. gallon of fuel as compared with a former 4¼ mpg. Says McAdams: "I have never owned a better truck."

Learn why long-distance haulers are turning to Mack diesel power for low-cost, dependable hauling of high-cube loads. Your Mack branch or distributor will be glad to show you how Mack diesels can help you, too. Mack Trucks of Canada, Ltd., Montreal, Ottawa, Toronto, Winnipeg, Regina. Distributors in other major cities.

MACK for over 10 straight years NO. 1 by far in sales of diesel trucks

IT'S PART OF THE LANGUAGE ...BUILT LIKE A Mack



High-cube vans call for dependable Mack diesel power to keep loads moving at top legal speeds with top fuel economy. Operators agree that the Mack Thermodyne diesel is unexcelled for low upkeep costs, too. Here North American driver instructor Max Stauffer maneuvers a Mack H-67T Model and trailer into the loading dock.

Highways Across Canada

New Brunswick

New Brunswick's highway building and maintenance program for the 1960-61 fiscal year calls for expenditures of $27 million.

Public Works Minister J. Stewart Brooks estimates the 800-mi. highway construction, bridge-building and maintenance program for provincial highways will run to $18.8 million.

Another $8.6 million will be spent on Trans-Canada Highway and roads to resources.

Besides adding 200 mi. to its 3,200 dust-free highway mileage, he said, the program will push the provincial government's highway spending since 1952 to just over $200 million, a record high for any eight-year period in the province's history.

It provides, he added, for 18 mi. of new construction on provincial main trunk, secondary and branch roads; 8 mi. Trans-Canada Highway; and 60 mi. roads to resources.

During the 1959 calendar year, the Public Works Department spent well over $30 million on construction and bridge-building projects and general highway maintenance.

The projects added 250 mi. to the province's dust-free roads, and pushed provincial government expenditures on its highways to a record $175 million from 1952 to 1959 inclusive.

Between January and December of last year, recapping, surface treating, sealing and grading and graveling of roughly 850 mi. of main trunk, secondary and branch roads was carried out under contracts, county projects and by the department's crews.

New highway and bridge construction cost $18,458,410; road, bridge and ferry maintenance $6,522,189; machinery and equipment $962,595; and snow control $4,158,963.

A breakdown of the province's highway mileage at the end of the year showed 3,200 mi. of hard-surfaced and 9,832 graveled roads for a total of 13,032.

Up to the end of the year, the province had spent $2 million on projects coming under the federal-provincial roads-to-resources program.

In mid-December, New Brunswick officially entered the scheme under which the province undertakes to build 423 mi. of roads at an estimated cost of $18.2 million.

The undertaking, with the federal government, covers 16 projects in various parts of the province with Ottawa contributing 50% of the cost of construction over a 10-year period up to a maximum of $7.5 million.

New Brunswick's projects cover roads to the forests, mines, fishing, hunting and tourist attractions with work on some already well under way.

A 1958 public works department experiment with soil cement stabilization aimed at combating frost action and cutting road-building cost is proving successful, and will be used on other provincial highways as conditions warrant.

Site of the N. B. experiment, believed to be the first tried on a provincial road in the Maritimes is a 5 mi. surfaced stretch on the Fredericton-Minto highway.

Rebuilt several years ago and surface treated with a prime and double seal, that section of the highway was found to be highly susceptible to frost action and in some places broke up within three years.

To get good gravel for resurfacing, meant a haul of over 25 mi. at a cost of $1.33 per ton.

Added to this, the cost of gravel, loading and spreading would run the cost to approximately $1.80 or roughly $18,000 per mi. for preparing for surface treatment.

As this was considered high, he added, it was decided to try Portland cement stabilization using material already on the surface.

After tests by the department's materials branch it was found that a 7% by volume of cement would give a sheer strength in excess of 115 lb. which was considered adequate.

This worked out to approximately 6,000 bags at a cost of $6,400 per mile for cement, or an over-all cost of roughly $8,000 a mile.

May Build Canadian Plant

Caterpillar Tractor Co., may build a Canadian plant.

According to John Q. McDonald, president of this major manufacturer of earth-moving equipment, Canada is the company's biggest market after the U. S.

Right now the company is studying the Canadian market and considering the possibility of building a Canadian plant. But no location has been decided upon as yet.

At the moment, Caterpillar operates a parts depot in Toronto and has 11 dealers across the country who stock big inventories of spare parts.

Its northern Alberta dealer, **R. Angus (Alberta) Ltd.,** will build a $750,000 warehouse in Edmonton. The company has branches in Grande Prairie and Peace River.

The parent company employs 40,000 people, has nine plants in the U.S., plus plants in Australia, Brazil and the U.K., besides dealers around the world.

Showing company interest in Canada; Caterpillar has just started buying steel from **Algoma Steel Co.,** Sault Ste. Marie, Ont.

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Set One Standard For Traffic Signs

Traffic authorities regard the establishment of Canadian standards for traffic signs, signals and pavement markings as the greatest single step yet made in the forward march of traffic engineering in Canada.

The standards are contained in a Manual of Uniform Traffic Control Devices for Canada now in the hands of provincial, federal and municipal road administrators and engineers from coast to coast.

The 208-page manual, published and distributed by the Canadian Good Roads Association, represents the first organized attempt to achieve uniformity of traffic control devices throughout Canada.

For the motorist, it promises an end to the confusion caused by local and regional variations in traffic control devices.

He soon will be able to travel from coast to coast with the assurance that all signs and signals convey the same message on inter-city highways, city streets and township roads.

Adoption of the national standards will also simplify the work of traffic regulation, save the taxpayer money and contribute to the reduction of highway accidents.

All major areas of Canada have indicated acceptance in principle of the standards recommended in the manual.

Highway authorities predict the new standards will be in general use throughout Canada by 1965.

The new Canadian manual is the product of more than three years of study and preparation by close to 100 traffic personnel from every province, 11 major municipalities, industry and national associations.

The project, under the joint sponsorship of CGRA and the Canadian section of the Institute of Traffic Engineers, was officially launched in May, 1956, in Winnipeg when the first meeting of the joint committee on uniform traffic control devices for Canada was convened by CGRA.

The completed manual, available in both English and French, contains more than 300 diagrams and illustrations, including accurately scaled and colored versions of each of the recommended traffic signs.

It is published in loose-leaf form to permit supplements and revisions to be made in the light of the continuing work of the joint committee.

Three basic forms of traffic control devices, signs, signals and pavement markings, are dealt with in separate chapters.

Key to the traffic signs chapter is new emphasis on the visual impact of signs.

Graphic symbols replace written messages wherever possible.

Turn prohibition signs composed of black arrows circled in green are typical of the new signs.

A five-sided blue sign containing two white figures will warn motorists of nearby schools.

Other new signs include a green and white Trans-Canada Highway marker and blue and gold civil defence route markers.

In addition to standardization of size, shape, lettering, wording and color, the manual recommends that all signs carrying messages of warning, important regulations or essential directional information be made equally visible by day or night.

A new system of warrants for the installation of traffic signals is a highlight of the manual.

It is recommended that signals be installed on the basis of the waiting period required to enter or cross an intersection.

Warrants have traditionally been based on numerical criterion rather than the delay encountered by vehicles or pedestrians.

A number of changes in equipment and operational procedure for traffic signals are recommended to speed the flow and increase the safe movement of traffic.

The first national code for the design and use of traffic signs, signals and markings ever proposed in Canada, the manual was planned in the light of general acceptance on the North American continent of the standards of the American Association of State Highway Officials.

Representatives on the joint manual committee, in addition to the Canadian Good Roads Association and the Institute of Traffic Engineers, include 10 provincial governments, 11 major municipalities (Calgary, Edmonton, Halifax, Hamilton, Montreal, Ottawa, Quebec, Regina, Toronto, Vancouver, Winnipeg) the RCMP, Board of Transport Commissioners for Canada, Canadian Association of Chiefs of Police, Canadian Automobile Association, Canadian Highway Safety Conference and the Engineering Institute of Canada.

Highway Expenditures 1928-58

Year	Total Expenditures $	Expenditures Per Vehicle $	Expenditures Per Capita $
1928	57,875,410	54.12	5.88
1938	103,863,791	74.46	9.31
1948	268,249,792	131.82	20.99
1949	270,169,942	117.95	20.09
1950	277,913,759	106.88	20.27
1951	334,584,262	116.48	23.88
1952	404,291,421	128.11	27.96
1953	397,068,159	115.74	26.75
1954	429,472,008	117.84	28.09
1955	513,852,270	130.13	32.73
1956	653,567,078	153.22	40.64
1957	714,726,805	158.93	43.08
1958	772,748,991	163.74	45.33

Source: Highway statistics, DBS.

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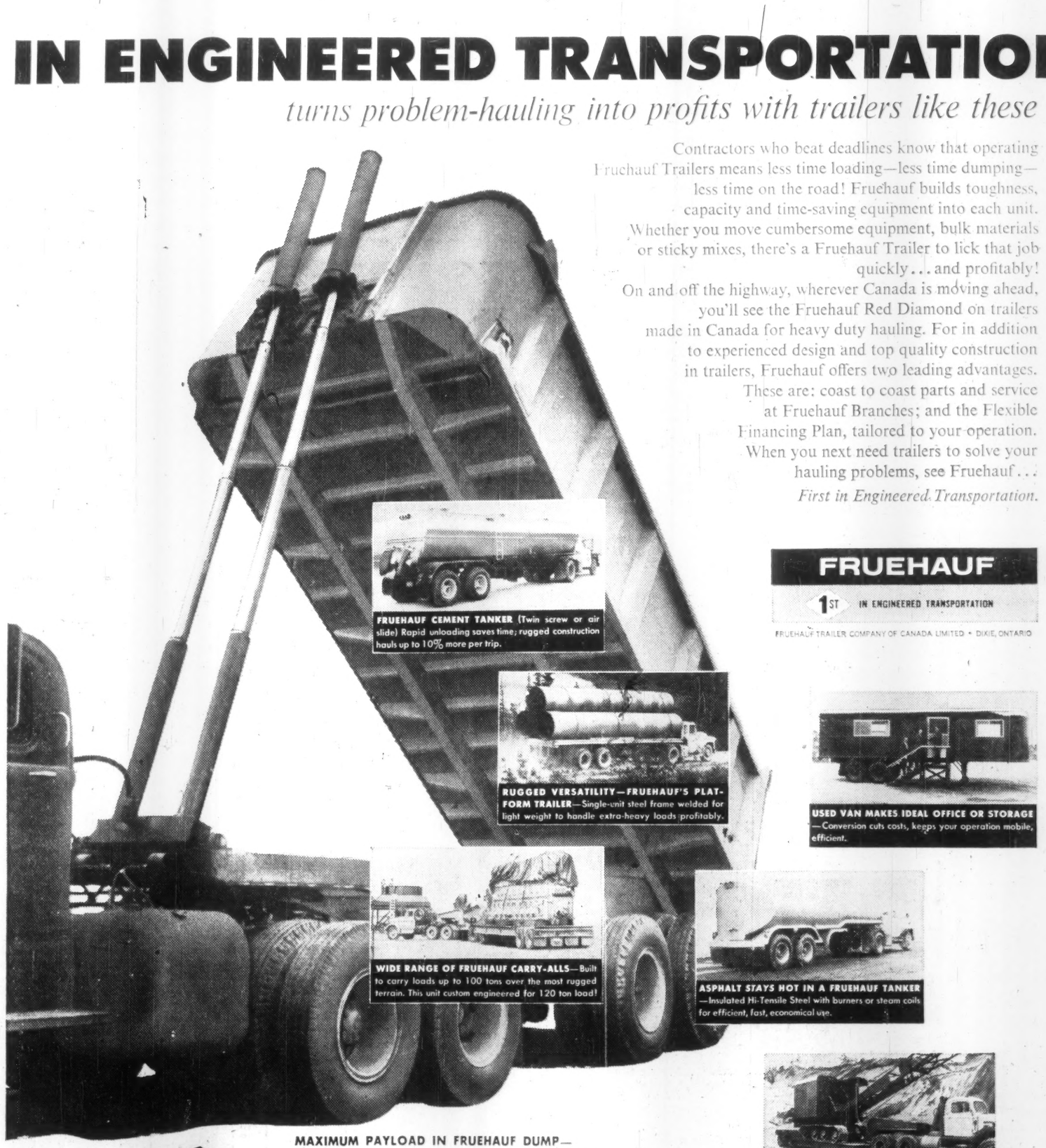
Contractors who beat deadlines know that operating Fruehauf Trailers means less time loading—less time dumping—less time on the road! Fruehauf builds toughness, capacity and time-saving equipment into each unit. Whether you move cumbersome equipment, bulk materials or sticky mixes, there's a Fruehauf Trailer to lick that job quickly... and profitably!

On and off the highway, wherever Canada is moving ahead, you'll see the Fruehauf Red Diamond on trailers made in Canada for heavy duty hauling. For in addition to experienced design and top quality construction in trailers, Fruehauf offers two leading advantages. These are: coast to coast parts and service at Fruehauf Branches; and the Flexible Financing Plan, tailored to your operation. When you next need trailers to solve your hauling problems, see Fruehauf...

First in Engineered Transportation.



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1605

THE NAME THAT CARRIES MORE WEIGHT ACROSS CANADA

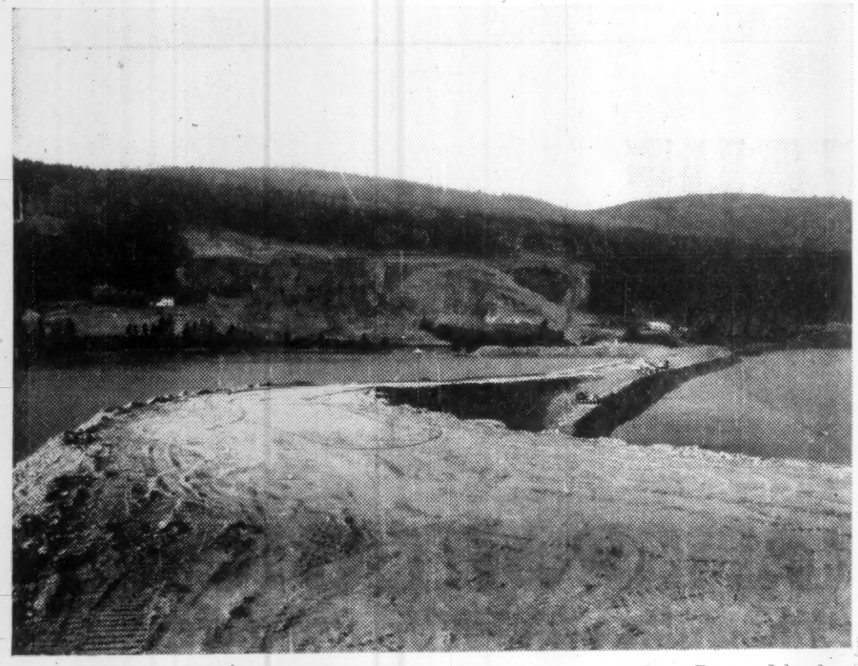
Taxes Cushion Highway Costs

Motor vehicle user taxes are here to stay and they are likely to increase in importance within the next 10 years.

Revenue from these taxes will not reduce the existing level of taxation on real property owners but may cushion the incidence of future road expenditures on this class of taxpayer.

Whatever road user charges are levied should be imposed and distributed at the provincial level, not at the municipal, with the possible exception of metropolitan areas. In this event, metropolitan levies should be comparable to provincial imposts in all other areas of the province.

Those forms of motor vehicle user tax already in operation should be made more productive rather than that



WORK PROGRESSES on the 2,400-ft. Bras D'or causeway on Cape Breton Island.

the tax structure should be complicated by the imposition of new levies.

In brief, these are the views expressed recently to roads men by F. H. Finnis, Canadian Tax Foundation.

Municipalities seem to be bugged by lack of funds, not only for roads but for every other service, said Finnis.

Consequently they're always on the lookout for sources of revenue additional to the real property tax, licenses, fees, fines, etc.

Here's how Finnis sees the roads financing problem:

A number of Quebec municipalities have adopted a municipal sales tax. Others have poll taxes, personal property taxes, amusement taxes and even a coal tax.

It's not surprising that, on occasion, interest has been shown in the possibilities of reaching into the pockets of motor vehicle owners and of extracting from this class of taxpayer part of the cost of the services that benefit them the most—the roads.

There is little disagreement with the idea that road costs should be borne in part by road users through taxation of motor vehicles or gasoline, even though justification for the principle rests on the somewhat nebulous concept of "benefit received".

But there is considerable disagreement on which level of government—the local or provincial—the responsibility for administration of the system should rest.

There is also disagreement on what proportion of the tax should be borne by road users, the type of tax or taxes to be levied, and the determination of the rates to be used. But first bone of contention is: "Should the municipal level of government tax road users?"

With the exception of one or two municipalities in New Brunswick, road user charges are essentially a provincial tax field. Across Canada provincial charges, in the form of taxes on gasoline and motor vehicles, now provide in the region of 70% to 75% of the funds for provincial highway construction and provincial grants for municipal roads.

This percentage is not likely to remain at this level. Unless the taxation rates of road use charges are increased, provincial revenue from this source will, in 10 years' time, approximate only 60% to 65% of estimated road expenditures instead of the 70% to 75% that they represent today.

This estimate is based on population and motor vehicle registration projections, for the next 10 years.

It is reasonable, therefore, to expect that provincial road use charges will be increased within the next decade and any additional burden in this same field by way of a municipal tax would be a most unpopular move on this one score alone.

There are plenty of other reasons why municipalities should not adopt taxation of road users as an added source of local revenue.

Many authorities have reviewed the pros and cons of the use of road user taxes in general. Many studies have points in common and certain criteria can be evolved.

By projecting to the municipal scene the more generally accepted principles proclaimed in these works, it is possible to picture what would be likely to happen if municipalities adopted this form of taxation.

Most authorities agree that road user taxes should conform to certain elementary principles. They should be: productive; easily administered; equitable.

The primary consideration of any tax is the amount of money it will produce. In Fredericton and Newcastle, in New Brunswick, the income from taxing motor vehicle owners has ranged from 35% to 45% of expenditures on public works in these municipalities.

This is quite a tidy sum and is certainly a point in favor of municipal taxation of motor vehicle owners.

Presumably, one could conclude that the property tax would be higher were it not for this tax.

Unfortunately, however, we just do not know how much municipalties really need to spend on roads. We only know that they do spend under their present limited resources. The roads in Fredericton are not noticeably better nor worse than those in other municipalities.

It is very risky to generalize but it does not necessarily follow that additional revenue from another source will relieve the property taxpayer of part of his burden.

If the needed expenditure for local roads has exceeded actual expenditures it is reasonable to suppose that a large part of any new revenue will simply be devoted to liquidating the backlog of necessary work.

The property tax would then continue at the same level as before. The effect of new revenue on the property tax would, therefore, depend on the extent to which needed road expenditures were being met from traditional sources in individual municipalities.

In discussing the ease or even the feasibility of administration at the local level, the type of tax has some bearing. The gasoline tax would probably be the most easily administered.

Presumably, service stations could act as collection agents and periodic audits would probably suffice to ensure maximum co-operation.

If motor license fees were the chosen form of tax, details of ownership could be obtained from the provincial registry and the municipalities could bill the owners as they do for property tax. This is the method used in Fredericton and the system works with a minimum of administrative cost. The only other measure that would be feasible at the local level would be an operator's license fee.

At the provincial level, its use is primarily one of regulation but if used municipally it could be a sizable means of revenue. The operator could be responsible for making his own application and perhaps some identifying endorsement could be made on the provincial license.

All three charges mentioned—the gasoline tax, the motor vehicle tax, and the operators' license—are forms of revenue which are already in use at the provincial level and there is no doubt that they could be adopted for local use.

Federal Road Spending

Expenditures of the Federal Government on Highways, Roads & Bridges
Fiscal year ended March 31

$'000

	1959-60 (Estimates)	1958-59 (Preliminary)	1957-58 (Actual)
Trans-Canada Highway:			
Contributions to the provinces	48,084	50,000	49,591
Construction through federal parks	13,405	10,000	12,615
Contributions to the provinces for the construction of roads to resources	9,000	3,000	....
Roads in National Parks	13,150	10,850	9,259
Roads in the Yukon and Northwest Territories	11,700	8,720	4,628
Northwest Highway System	16,507	15,401	12,257
International and interprovincial bridges	2,500	555	180
National Capital Commission roads	1,200	1,670	992
Payments out of Railway Grade Crossing Fund	15,000*	6,000	1,878
Other	5,780	3,430	2,408
Total	136,326	109,626	93,808

*This represents the payment to the fund. The estimate of the payments to be made out of the fund is not available. Payments in 1958-59 were $15,000, and in 1957-58 were $5,000.
Source — Canadian Good Roads Association.

Another tax used in U. S. is the so-called weight-distance tax. This is based on loaded weight and distance traveled within a particular jurisdiction.

Opponents of this tax contend that it is unnecessarily complicated, that it adds to the costs of accounting and that it forms a third structure on top of motor fuel taxes and licenses which are already supposed to measure the benefit obtained from using the roads.

From the municipal point of view, administration of this form of tax would appear to be virtually impossible.

Administration by local government of motor vehicle user taxes would have one drawback common to all these types of revenue sources. It could cause annoyance, confusion and duplication of effort by increasing the number of agencies operating in the same field of taxation.

As the provincial governments are already administering three of the four types of taxes mentioned, it seems wise to leave administration of road user charges to one central body.

The 1959 report of the British Columbia Commission of Enquiry into Road User Charges came to the same conclusion with the words: **"A point has been reached in the development of road transport at which simplicity, economy and efficiency** of enforcement of highway protection regulations, 'safety' regulations and revenue laws require administration by a single authority."

If a municipality is concerned only with obtaining more revenue from its own residents, administrative details for the three preferred types of road user charges would be greatly simplified. But if the object of the levy is to obtain a fair contribution from all habitual municipal road users, the administrative difficulties could well be insurmountable especially in areas of contiguous urban growth.

It seems reasonable that municipalities forming the central hub of an urban complex are entitled to expect some support from suburban commuters who derive profit and pleasure from the use of the road system and other services of the central municipality.

Opponents of this theory point out that the activities of commuters contribute toward the financial success of the central urban area and thereby counterbalance any cost or inconvenience they may cause by traffic congestion.

Supporters on the other hand, contend that the activities of local taxpayers also contribute in like measure to the wealth of the community and probably to a greater degree than that of suburban dwellers.

The incidence of the tax burden on taxpayers of adjacent municipalities is not the only point of equity to be considered. No tax should be injurious to local enterprise nor should it penalize one particular section of the community.

Presumably, commercial vehicle owners would want to pass on a municipal road user charge to the customer as a business expense. Per-

(Continued on page 59)

choosing the right tires

FOR OFF-THE-HIGHWAY TRUCKS

Toughness is the main tire requirement for rock and earth hauling operations. Tire rubber must be rugged and durable, able to ward off cutting, snagging and tearing. Tread bars should be carefully spaced and designed to eject rocks. The tire body has to be extra strong to take the shock and punishment of rough, hard ground. Last, but not least, give plenty of thought to the tread design. Make sure you get a combination of treads that will give you full traction and flotation plus protection against side-slipping.

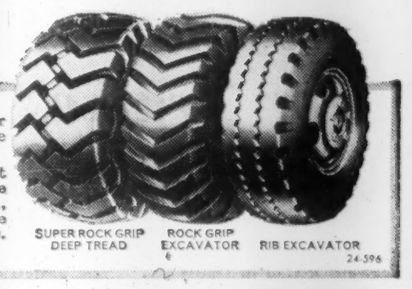
Firestone recommends the following tires for your operation. Each one is made with exclusive Firestone Rubber-X, especially compounded for rough, rocky conditions.

For extra traction—lowest cost-per-ton
SUPER ROCK GRIP DEEP TREAD
A high volume tire for extra traction in extreme conditions such as ore, rock, coal and earth hauling operations.

For trucks operated entirely off-the-road
ROCK GRIP EXCAVATOR
Specify for low-cost, dependable performance in pit-mining, quarrying, construction work and other tough services.

For extra stability on front wheels
RIB EXCAVATOR
Combine with either of the tires above for good lateral stability, easier steering and less vibration.

always specify
Firestone
for lowest cost-per-hour



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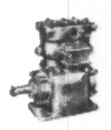

BENDIX-WESTINGHOUSE* AIR BRAKES

BENDIX* ELECTRIC FUEL PUMP

ZENITH* CARBURETOR

BENDIX* HYDROVAC* POWER BRAKE

STROMBERG* CARBURETOR

BENDIX* STARTER DRIVE

*REG. U.S. PAT. OFF.

Bendix-Eclipse of Canada, Ltd.
WINDSOR, ONTARIO
SUBSIDIARY OF Bendix AVIATION CORPORATION

Vehicle Taxation

Help Cushion Highway Costs

(CONTINUED FROM P. 58)

haps the consumer would then absorb all the cost of the tax in higher prices; but competition in some services or commodities might force the producer or carrier to absorb some, if not all, of the charge.

How would the fruit growers in B. C. react to such an added impost, especially if it were levied by some municipalities and not by others?

Within a province, some cause for complaint could be removed if legislation authorizing road use charges at the municipal level were made mandatory rather than permissive. Everyone would then be on the same footing but distribution of the proceeds would be according to the location of registered owners rather than by need.

This arrangement could be equitable in the case of small communities, but in the large urban centres surrounded by residential sprawl it is doubtful if the central municipality would benefit adequately.

In the metropolitan areas, it might be necessary to set up one central authority which would not only be responsible for road development and maintenance but which would also have wide road user taxation powers over the entire metropolitan area.

If this authority were vested in an elected body such as a metropolitan area government, it might have some merit.

Many people condemn road user charges on the grounds that they are re-equitable. We can carry the principle of progression in taxation a little too far, especially as such a large proportion of revenue is already derived from progressively graduated taxes on income and succession duties.

However, if equity demands that a tax be made more progressive, the more complicated the whole tax structure becomes and the more difficult it is to administer at the local level.

When we look at the pros and cons of a municipal user tax for financing local roads we are looking only at one small part of the whole problem of municipal finance. It is misleading to generalize too broadly because conditions vary so across the country.

A municipal user tax may be appropriate for Fredericton but could be virtually impossible to operate equitably in a city like Victoria.

The boundaries of Fredericton encompass a very large rural area. Evasion, through gressive and therefore in-non-residence, would entail the inconveniences of rural living and would not be likely to be practised very extensively.

But in Victoria, where the city area is small in relation to the suburbs, and where the city population is actually less than the suburban total, no form of municipal motor vehicle use charge could possibly reach all the taxpayers on which it should fall.

For the sake of equity and administrative feasibility, in the majority of cases, responsibility for the tax would have to be centralized.

Longest Load Ever in Ontario?

ACTIVE CARTAGE LTD., Maple, Ont. recently moved what's believed to be the longest load ever carried over Ontario Highways.

The cargo: A 97-ft. precast, prestressed concrete beam, moved from Maple to the site of a new highway bridge near Guelph, Ont. It's one of 28 such beams for the bridge crossing Highway 401 in Puslinch Township.

Movement of the beam by road transport was done to test the practicability of moving the remaining beams the same way. Test was successful.

Loading the big beam required only 30 min. and unloading about the same time. Actual running time from point to point took only one hour and only once was it necessary to stop in order to negotiate a sharp turn in a clover-leaf.

Maker of the beam, Standard Prestressed Structures is producing beams for several other bridges, varying from 60 ft. to 82 ft. in length, for erection up to 240 mi. from the company's plant.

Special equipment used for the move include a King tri-axle unit, coupled to a tandem tractor by a special pole assembly designed by Active Cartage.

George Bater of Active Cartage said: "We had to determine the difficulties involved in turning corners and holding up traffic. Results were so encouraging that we will be doing it as routine work within a few months.

"Experience we gained will enable us to schedule later hauls with a minimum of interference with normal highway traffic and, of course, an appreciable saving to the Ontario Department of Highways in bridge construction."

Unique Rubber Joint

Rubber sandwiches between slabs of concrete are ahead for Canada's highway builders.

In the sandwich is what is said to be a unique expansion joint designed to eliminate the very rhythmic road shock which motorists encounter on super-highway driving.

M. E. Bailey, general manager, industrial products division, **B. F. Goodrich Canada Ltd.,** said the new product is an entirely different concept in rubber highway expansion joints.

According to Bailey: "It permits for the first time as much as three inches of expansion and contraction, while still keeping the rubber flush with the highway."

Warm summer days and zero winter extremes would have no detracting effect on the expansion joint's performance, he said.

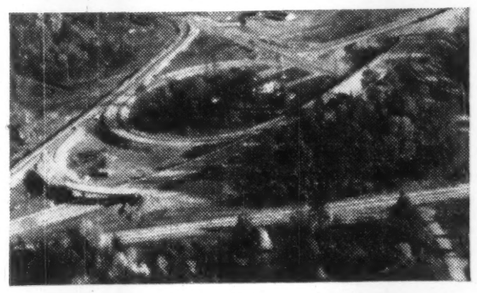
Made in sets which extend completely across each lane of a dual highway, the 13-in. wide joints are anchored in the concrete for a water-tight-seal.

"Designed originally for super highways, the new expansion joint will be adapted for bridges, bridge approaches, normal highways and even airport runways, he said.

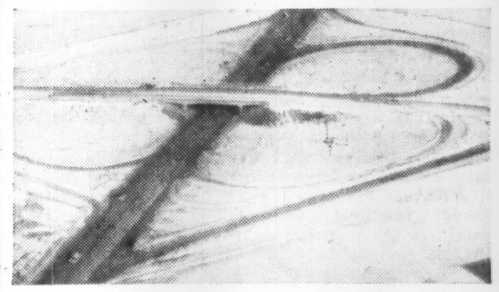
In view of the tremendous highway and air terminal expansion programs under way, Bailey predicted that rubber expansion joints will soon be commonplace in Canadian highway installations.

IN HIGHWAY CONSTRUCTION, TOO...
FRANKI FOUNDATIONS CARRY A LOT OF WEIGHT

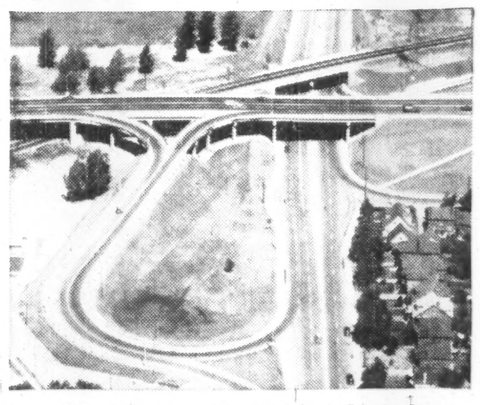
Laurentian Autoroute Bridge, Riviere des Prairies, Que.



Overpasses—Second Narrows Bridge Approach, Vancouver, B.C.



Overpass—Calgary, Alberta



Overpass—Dundas and Royal York Roads, Toronto, Ont.

Year after year, FRANKI foundations are proving their permanence and stability in over 1,600 structures across Canada . . . including many of the largest and best known.

Here, and in 53 countries around the world, FRANKI foundations are specified with confidence — (a) because their high working load capacity means fewer units and savings of money — (b) because they most often save valuable time — (c) because they are *guaranteed*.

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OF CANADA LIMITED
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QUEBEC OTTAWA TORONTO EDMONTON VANCOUVER

N.S. Surplus Brings Bid For Lower Gasoline Tax

Taxpayers want reductions, especially in the gasoline tax, and government opponents demand less penny-pinching and more needed public spending.

The reason: A $3.3 million provincial surplus in the fiscal year ended March 31, 1959.

Nova Scotia took in $78 million during the year, spent $68.8 million and used $5.8 million for sinking fund and serial requirements.

Biggest spender during 1958-59 was the highways department which used $20 million, $13 million of it for maintenance.

Education cost $17 million.

On the revenue side of the ledger:

Highways brought in $19.9 million — $14.6 million of it from gasoline tax ($1 million above estimates), and $5 million from licenses.

Liquor profits brought in another $11.2 million ($725,000 over estimates).

In the three months of operation, the sales tax brought in $1.6 million ($2 million estimated).

Federal subsidies and grants amounted to $37 million.

Reaction in some quarters has been that Nova Scotians have been overtaxed by about $5 per capita.

Others have a long list of suggestions as to where more money could have been spent in the fiscal period.

Many charge that government departments were clutching pocketbooks too tightly.

Public accounts records show:

- **A sum of $358,000 left in the preventive public health fund.**
- **Almost half** of the $540,000 set aside for roadside clearance last winter was untouched.

However, increased revenue from gasoline and liquor is being viewed as an indication of rapid advancement in purchasing power of Nova Scotians.

Other areas of less than predicted income were:

- **Coal royalties** at $528,000, were down $71,000.
- **Gypsum tax** was down $37,000 from the estimate of $187,000.
- **Theatre admission** tax continued a downward trend to $202,000, off $22,000 from estimates.

Out of the $3.3 million surplus, $3 million was paid into the public debt retirement fund, reducing net ca[illegible]er to $348,000. A surplus of $84,000 had been forecast in budget estimates.

Support CGRA

Single biggest group of CGRA supports are road-building contractors.

Of the total subscriber membership of 733 at the end of January, 220 were contractors. Manufacturers formed the second largest group, totaling 142.

In numerical order, CGRA membership is composed as follows:

Contractors	220
Manufacturers	142
Equipment dealers	98
Governments	83
Road transport	56
Associations	41
Consultants	40
Related and supporting	33
Automobile dealers	11
Publishers	9

SICARD
Invades the Highways!

SICARD INC.
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BRANCHES IN: STE. THERESE, QUE., SEVEN ISLANDS, QUE., WATERTOWN, N.Y., U.S.A.

Highways Across Canada
Prince Edward Island

Between 100 and 150 mi. of road will be paved in Prince Edward Island this year, a large portion of the work being undertaken in co-operation with the Federal Government under the roads-to-resources program.

Some 400 mi. will be added to the province's paved highways in the next eight years, according to terms of a federal-provincial agreement.

Total cost: $15 million, with each government providing $7.5 million.

The new paved roads, upgraded from gravel, will skirt shorelines and provide scenic routes to bathing beaches and picturesque villages rated tourist attractions.

Tourist areas in Prince Edward Island and Nova Scotia are eligible for roads-to-resources aid.

With a population of 100,000 and more than 500 mi. of paved roads, Prince Edward Island has the highest per capita pavement figure in Canada. New Brunswick ranks second with 485 mi. of paved roads per 100,000 of population.

In the last three years, some 40% of the Island's total revenue has been spent on roads. **Revenue in fiscal 1959-60 was about $16 million with 60% coming from the Federal Government** in subsidies, tax rentals, subventions and other grants.

Largest item in the 1959-60 capital budget was $5.4 million for highways and bridges with maintenance costs absorbing another $1.5 million.

Ten years ago less than 200 mi. of paved highways were available.

Since 1953, some $12 million has been invested in standard paving of 300 mi.; $4.5 million has been expended on the Trans-Canada Highway which runs from Borden to Wood Island, a 75-mi. stretch; $2 million has gone into 19 mi. of highways in the national park area; and $840,000 has been used to construct 12 mi. of concrete road.

During the period some 2,000 mi. were standardized with shale and gravel. Nearly every major bridge was rebuilt at a cost of $4.5 million.

This year another 18 mi. will be paved in the national park, linking roads already completed.

Surfaced Highway Mileage 1928-58

Year	Total Miles	Surfaced Hwy. Mileage Index (1928=100)	Vehicles per Mile	Persons per Mile
1928	64,120	100.0	16.7	153.4
1938	110,637	172.5	12.6	100.8
1948	150,493	234.7	13.5	85.2
1949	161,799	252.3	14.2	83.1
1950	169,498	264.3	15.3	80.9
1951	175,356	273.5	16.4	79.9
1952	181,306	282.8	17.4	79.7
1953	190,997	297.9	18.0	77.7
1954	192,616	300.4	18.9	79.4
1955	200,090	312.1	19.7	78.4
1956	209,328	326.5	20.4	76.8
1957	231,044	360.3	19.5	71.8
1958	251,992	393.0	18.7	67.7

Source: Highway statistics, DBS.

More Road Signs, Railings Being Made of Aluminum

The use of aluminum in road accessories is continuing to expand as more consultants and highway authorities become acquainted with the functional and aesthetic characteristics of the metal.

Expanded use in the past year can be pin-pointed in sign support structures, signs, light standards and railings.

Aluminum overhead sign support structures have become common on the larger highways in Canada.

In the Montreal district, there are over seventy monotube structures on the Laurentian Autoroute and the Montreal Expressway.

In southern Ontario, lattice-type structures are being used for the Municipality of Metro Toronto and the Department of Highways of Ontario. The lattice-type of structure has been used for spans up to 135 ft. Structures of both types can be used for spans up to 70 feet normally needed to straddle multi-lane highways.

Important factors in selection of aluminum here are long maintenance-free life, and fast erection due to light weight. When repair or replacement is essential (for instance for new signing or because of mechanical damage), the minimum of time and equipment is needed for take-down.

Extruded interlocking sign sections made of aluminum are now in use on many major highways. Sections are supplied up to 30 ft. long to be subsequently coated with reflective lettering.

Big advantages offered by aluminum here are ease of assembly and erection and good bonding with high-quality reflective materials. These sections are also well-adapted to use with mechanically attached cut-out lettering or with painted surfaces. Extruded aluminum street name signs and sheet panel signs are also becoming standard equipment in many parts of the country.

Large numbers of aluminum light standards can be seen spaced out alongside such highways as the Gardiner Expressway and soon will be evident on Ottawa's Queensway.

They tend to be specified where prestigious appearance is desired with minimum of maintenance.

Already, aluminum components are standard for the majority of luminaires and for many types of luminaire supporting arms.

Many impressive bridge and highway projects built during 1959 embody aluminum railings for decorative and restraining purposes. Pedestrian and parapet railings are now common features of new construction as a result of the clean appearance given by the corrosion-resistant metal.

Trucking On Rise In P.E.I.

Prince Edward Island based highway carriers forsee an important surge in their business in the next decade.

Notable increases in volume of traffic handled were reported by most trucking firms in 1959.

Improved roads will enable truckers to increase efficiency, contributing to the over-all economy of the province.

A boon to truckers would be construction of a causeway linking Prince Edward Island and the New Brunswick mainland.

One of the pet dreams of the Maritimes, the proposed causeway would stretch nine miles across Northumberland Strait, providing a "road to the island" to replace ferry service.

Estimates of costs have ranged between $150 million and $450 million.

Truckers, who use the ferries, complain about delays which add substantially to costs of operation by tying up valuable equipment.

Storage Pays Off In N.S.

Long-distance hauling has always meant lean profits for Nova Scotia truckers. Last year was no exception.

But, in 1959, truckers made increased efforts to cash in on the more profitable end of the business—storage.

Nova Scotia operators are turning to a type of highway containerization.

The newest innovation, fast becoming popular in the furniture-moving business, employs metal and wooden containers.

It cuts down on the handling costs and makes the business of moving more attractive to the customer.

Railways and ships already know the advantage of this process. The method has been introduced on shipments to St. John's, Nfld.

Nova Scotia operators don't think piggyback rail shipment is the answer to problems of transport.

"Containerization" is their answer.

The changeover in Nova Scotia will be gradual due to initial costs of larger vehicles and warehouses.

A system of containers will have to be set up. They will sell for about $40 to $70.

Changes in Department of National Defence policies curtailing postings has been felt in the province's trucking business.

Postings have been extended to two or three years.

Many provincial truckers, especially in the Annapolis Valley and Halifax area, admit that DND contracts form the basis of their operations.

With 50% of Canada's navy stationed in the capital city and other coastal points, the defence business has been vital.

"If we hold our own on long-distance movement we do well," says one trucker.

Local moving always runs at a loss, he says.

Newest firm to enter the field in Nova Scotia is **North American Van Lines (Atlantic) Ltd.**

The firm's first move was to build a $500,000 storage warehouse on the outskirts of Halifax.

North American established its own firm in the province when its former agent sold out.

Significant in 1959 was the amendment to the Motor Carrier Act.

The Act now requires licensing for freight operators.

Under the former act they escaped.

Formerly motor carrier licenses were required only for operators of public passenger vehicles and school buses.

The new Act also affects extraprovincial operators.

They will be required to qualify under the regulations if they operate in Nova Scotia.

Only freight vehicles exempted are those owned by operators with not more than three motor vehicles or combination tractors with two axles.

Nova Scotia truckers only enjoy licensing reciprocity with two other provinces.

C-I-L

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AND BLASTING AGENTS

FOR

HIGHWAY CONSTRUCTION

Canada rolled out of history on rails. Now, to travel into the future, we are building highways from sea to sea . . . across some of the roughest country over which roads have ever been built.

From the Fraser Canyon . . . "the toughest road-building job in North America" . . . to the Maritimes, and over the thousands of miles between, contractors and engineers, with the help of modern equipment, are successfully meeting the challenge with all their hard-won experience, skill and knowledge.

Wherever there is a need for explosives, blasting agents and accessories, you will find C-I-L products—and C-I-L Explosives Sales and Technical Service Representatives ready to help in any way possible.

CGRA OFFICERS

These are the officers of Canadian Good Roads Association for the year 1959-60:

President — Hon. Fred M. Cass, minister of highways, Ontario.

Immediate past president —Hon. J. T. Douglas, minister of highways and transportation, Saskatchewan.

Vice-presidents—Hon. G. I. Smith, minister of highways, Nova Scotia; Hon. J. Philip Matheson, minister of public works and highways, Prince Edward Island; Hon. Dr. F. W. Rowe, minister of highways, Newfoundland; Hon. Gordon Taylor, minister of highways, Alberta.

Hon. secretary—T. J. Mahony, honorary secretary, Ontario Good Roads Association, Hamilton.

Hon. treasurer — J. A. Dochstader, assistant to the president, **Bell Telephone Co. of Canada**, Ottawa.

Managing director—C. W. Gilchrist.

Assistant managing director—R. A. Draper.

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MADE TO MEASURE FOR MORE PAYLOADS

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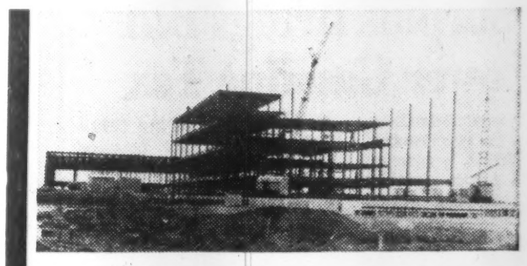
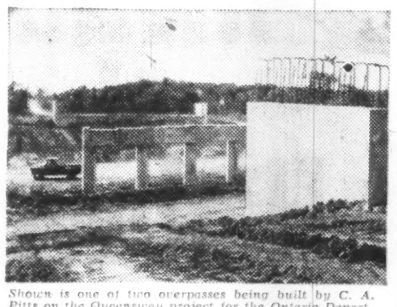
WITH SYMBOLS OF MAN'S PROGRESS

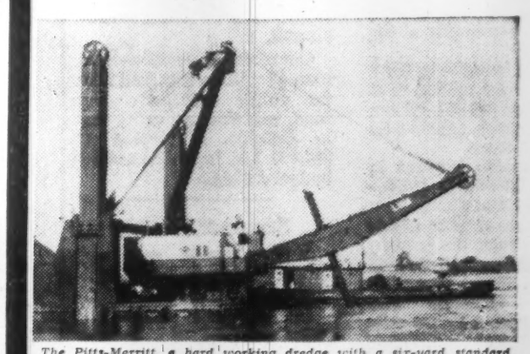
Right: Composite Building, one of five major buildings being erected for Defence Construction Limited at Frobisher Bay, Baffin Island, N.W.T. Project to be completed November, 1960.



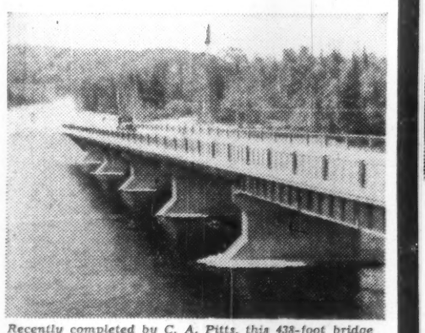


Shown is one of two overpasses being built by C. A. Pitts on the Queensway project for the Ontario Department of Highways, contract 58-631.

C. A. Pitts General Contractor Ltd. and Foley Brothers (Canada) Ltd. in a joint venture are building the 193-mile railroad from Shelter Bay to Lac Jeannine, Quebec.



The Pitts-Merritt, a hard working dredge with a six-yard standard shovel, performed a considerable dredging task while a navigational channel was being cut across Galop Island, part of the St. Lawrence Seaway and Power Project.



Recently completed by C. A. Pitts, this 438-foot bridge over the Michipicoten River, forms part of the Trans-Canada Highway between Wawa and Sault Ste. Marie, Ontario.

Roads, Bridges, Public Works, Foundations, Power Developments, Marine Construction

Throughout Canada C. A. Pitts forces, in many fields of engineering construction, are completing vital projects which mark the face of Canada with the outward signs of a nation's progress.

C. A. PITTS GENERAL CONTRACTOR LTD.

TORONTO — MONTREAL

TOUGH ROADBUILDING on a 20-mi. stretch of bog on No. 10 Highway between Mafeking and The Pas in Manitoba.

Highways Across Canada

Manitoba

In spite of one of the wettest construction seasons in history of the province which stopped work most of September and October, Manitoba road construction in 1959 was a record.

With 963 mi. of major construction and smaller improvement and repair jobs on the main trunk system and secondary roads, the highways branch did work on locations the equivalent of 2,245 mi.

The projected 1959 program called for estimated expenditure of $32.9 million.

The year ended with $8 million unexpended on jobs which couldn't be completed, and have to be carried over to the 1960-61 construction year.

Counting them, the 1960 program will be bigger than 1959. Anticipated capital expenditure is $33.8 million of which most of $7.5 million could be recoverable from the federal government on work for which it pays half the cost when the jobs are completed.

Other smaller recoveries will come from **International Nickel Co., Hudson Bay Mining & Smelting Co.** and the **Manitoba Hydro Electric Board.**

Apart from the estimated 1960 capital outlay on roads, an additional $11.8 million is charged to current revenues in public works estimates.

This amount includes administration costs, maintenance of trunk and secondary roads, work in unorganized territory, and aids to municipalities. Including this, the 1960 road program involves total expenditure of $45.6 million.

The planned work for the fiscal year starting April 1 covers a smaller mileage than in 1960 but the type of work is more costly.

Part of it will be grading and graveling a new 115-mi. highway from Gypsumville to Grand Rapids, location of the proposed $140 million hydro development on which work will start this year.

On 1959 work, for which only about $24 million of the $32.9 million estimated cost was spent, $3.3 million will be recoverable from the federal government, $1.8 million for work on the Trans-Canada highway and $1.5 million for roads in the north.

Both projects were delayed by weather. Grading and graveling jobs on the Trans-Canada weren't completed.

Similarly the federal-provincial roads to resources program in the north which calls for $15 million expenditure at rate of $3 million annually for five years was behind schedule. The 1959 program called for 133 mi. grading and 15 mi. graveling.

Other projects designated as "natural resources program" in cost of which the federal government also shares called for 99 mi. grading and 75 mi. graveling. This was completed.

Main delays in 1959 were in grading and graveling. The year's program called for construction of 856 mi. of grade and 1,008 mi. graveling.

In late October, contractors had completed 523 mi. of grade and 708 mi. graveling. Very little was completed after.

But for advance planning, one feature of which is voting capital money at least a full year before the construction season in which it is required, 1959 work would have been further behind.

A capital supply bill will ask more money for roads this session, probably about $20 million but very little of it will be drawn upon until the 1961-62 construction years.

The reason is that the former Campbell government in its last session of office voted $22 million for highway purposes.

The succeeding Roblin government voted $33 million in the fall of 1958 and an additional $19 million at the session in July, 1959.

The unexpended residue of these appropriations is sufficient to pay for most of the 1960 program.

A planning board set up early in 1959 to study future highway needs is now functioning.

In setting it up the government engaged James O. Granum, deputy chief engineer of the Automotive Safety Foundation, Washington.

With the assistance of the foundation, a board of highway department personnel is making an engineering study of long range highway needs.

The board will recommend at least a year in advance what highway construction should be undertaken. Decision on acceptance of its recommendations will remain with the government.

Trucking Volume Up In Sask.

The volume of trucking, which has been increasing rapidly in Saskatchewan since 1956, made another gain in 1959.

Figures are not yet available but the concensus in the industry indicates that the gain would be at least 10% over 1958.

Since tonnage carried by trucks in the province totaled 2,460,000 in 1958, it seems likely that more than 2,700,000 tons were carried in 1959.

Comparing revenue on the same basis, the 1959 figure would be more than $29 million since the 1958 revenue was $27 million according to the latest available figures from DBS.

Not only has the number of trucks operating in the province continued to increase but the revenue per unit as well.

For example the revenue per truck in 1956 was $11,300 per year while in 1958 it had risen to $15,900.

Mileage travelled in 1956 totaled 42 million mi. of which 33 million was inside the province's boundaries.

In 1958, this had risen to 69 million mi. of which 51 million was inside provincial boundaries.

It is safe to estimate at least a 10% increase in these figures for 1959.

A factor contributing to this increase was the raising of truck load limits on Saskatchewan highways last June.

This brought load limits in various classifications close to those of the adjacent provinces of Alberta and Manitoba.

As a result the amount of traffic by-passing the province through U. S. routes diminished to a trickle.

Offsetting this, to some extent, was a decrease in trucking in the oil industry as more and more gathering systems were built or extended to bring crude oil to pipeline terminals.

Most of the goods hauled come under the classification of "manufacturing and miscellaneous."

Next comes general freight and lastly agricultural produce.

The figures for 1958 indicate the relative amount of freight carried by Saskatchewan registered trucks to points outside the province.

In that year they carried 101,000 tons of freight to Manitoba, 31,000 tons to Alberta, 5,000 to Ontario, 3,000 to points in the U. S. and 1,000 to British Columbia.

Will Use Asbestos In Asphalt

Johns-Manville Corp., New York, has announced a major new research, development which promises to open up a market for 500,000 tons of asbestos fibre each year for use in asphalt road paving.

Significance of such a market, C. B. Burnett, president, said, may be measured in relation to total present production of asbestos fibre in the free world which runs about 1.5 million tons a year.

Large quantities of the desired grade of asphalt paving applications can be produced at reasonable cost at the integrated mining and milling operations of **Canadian Johns-Manville** at its Jeffrey Mine in Quebec.

Karl V. Lindell, vice-president, Canadian Johns-Manville and general manager of the company's asbestos fibre division said: "Our program of research into asbestos-asphalt road paving may well put us on the way to a highway surfacing that fills the demands for high speed and safety for the driver, as well as longer service and economy for the taxpayer."

Experiments have indicated that substantial benefits in paving life, performance and maintenance can be achieved by addition of only 2-3% of asbestos fibre to asphalt paving mixtures.

The mixes are said to give a tougher road surface with increased resistance to indentation under heavy load and high temperatures, less brittleness under low temperatures, increased flexibility and resiliency, and increased resistance to cracks resulting from exposure to all kinds of weather.

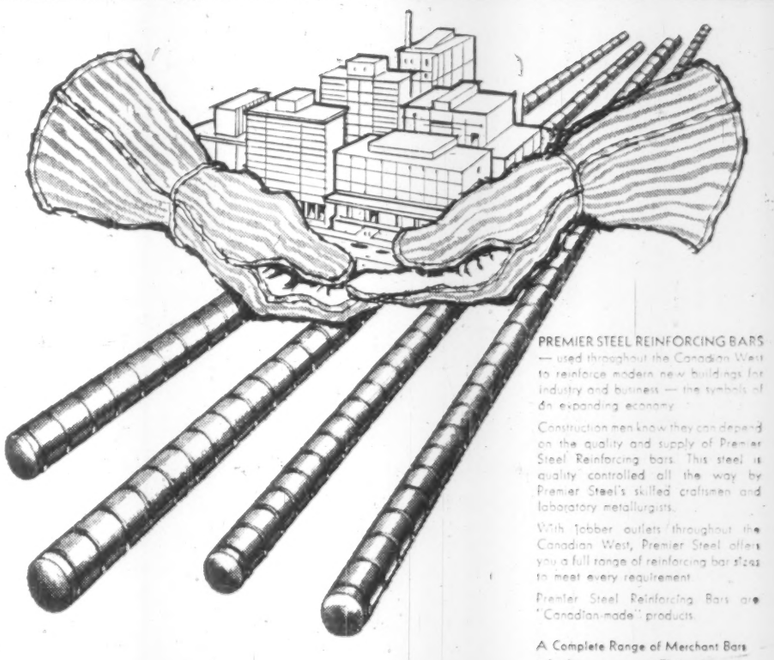
Johns-Manville, working with U. S. and Canadian highways authorities, has laid 18 test strips in eight states and one province in Canada.

As a result, the company claims, highway specialists are introducing mixes on an experimental basis as part of their current paving projects.

An asbestos-asphalt service road, on J-M property in Quebec, was installed in 1953 and for six years was subjected to punishing service by heavily loaded ore trucks in weather conditions highly damaging to conventional pavings.

Adjacent asphalt paving, without asbestos fibre, says the company, has required costly maintenance compared with the six years of virtually maintenance-free performance by the asbestos-asphalt test strip.

REINFORCING BARS



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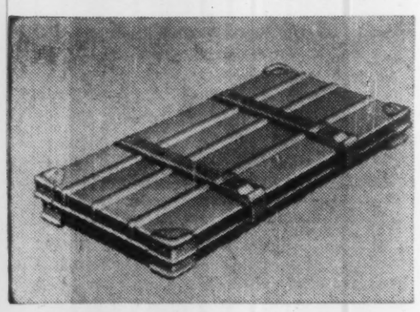
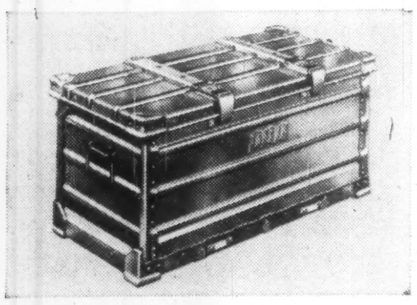
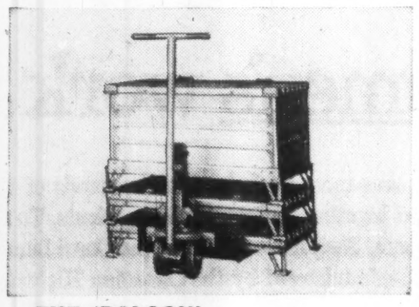


SPACE SAVING
The unique design of Tracons allows them to be collapsed to 1/5 their shipping size, and they stack safely to any height, full or empty with great savings in space. Tracons are available in a wide range of sizes.



STRONG, LIGHTWEIGHT
Tracons give maximum protection during shipping. They are manufactured from a special aircraft type aluminum alloy, precipitation age hardened after forming. They are extremely strong and light and easy to handle.

EASY LOADING
Fast, easy loading is always possible with Tracons. Uniform in design and construction, they can be moved into and out of all types of vehicles with a minimum of effort and loss of time, and the stacking qualities mean no load shifting.



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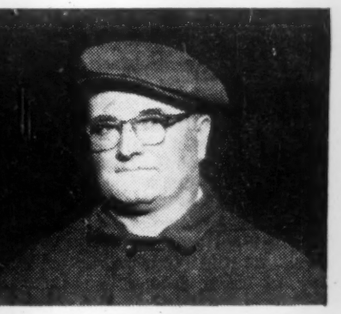
Another payoff-proved case history:

"WE'RE 92% MERCURY BECAUSE THEY GIVE US SUCH GOOD SERVICE"

— Dennis Moran, Contractor



Mr. Dennis Moran, well-known and successful contractor in and around Barrie, Ontario, explains why he is 92% Mercury Trucks: "We do mostly fill, gravel, excavating and grading jobs, operating within a 25 mile radius of Barrie. Each truck averages around 30,000 miles a year, with as many miles off the road as on it. You need rugged trucks for this kind of work with lots of power for the highway and plenty of stamina for in the rough. That's why my newest truck is a 1960 Mercury '700' dump. I've found them pretty economical to keep going, with little downtime and gas mileage as good as some lighter trucks I owned before. If we do develop trouble, even on the job, parts and service are always close at hand. My drivers like to drive Mercury Trucks better, too. They're comfortable and easy handling empty or loaded. As far as I'm concerned, I like Mercury Trucks and am considering more as replacement time rolls around."

Choose trucks that have *proved* their built-in economy and durability on all kinds of construction jobs — highways, subways, seaways, bridges and dams. And this year, there are more options of every kind for a "custom-tailored" fit of truck to job. See your Mercury Truck dealer for the *right payoff-proved truck* for you.

One of Ford of Canada's Fine Trucks *Certain features illustrated or mentioned are standard on some models, optional at extra cost on others*

MERCURY TRUCKS

Highways Across Canada

Quebec

Quebec is budgeting $111.9 million for expenditure by the roads department in 1960-61. Predictions are that actual expenditures probably will exceed this figure, given good construction weather.

The total breaks down into $48.8 million on ordinary (current) account and $63.1 million on capital account.

Estimated expenditure by the roads department for 1959-60, ending Mar. 31, is $115 million.

Meanwhile a large, additional separate roads project has been completed. The Montreal - Laurentian Autoroute — Canada's first toll highway — covers 30 miles from Montreal into the near-by vacation area. It cost $72 million, was opened in full last September.

The program for the coming year also calls for $14 million to be spent by the department of public works toward two much-needed new bridges connecting heavily populated Montreal island with the mainland. These will be at the west end of the island and in the southwest area, are expected to cost $22 million in all.

This, combined with progress on the transisland boulevard ($125 million estimated total cost) will greatly relieve traffic problems in the Greater Montreal area—and this is where many of the province's toughest problems are located.

The boulevard will travel the length of the island, be paid for by interested municipalities. The western end of the boulevard will be linked with the mainland town of Vaudreuil by an $8 million four-lane divided highway paid for by the province. Some $3 million of this latter total will be spent this year.

Other upcoming projects: About $4.5 million this year in continuing work on the master plan for the road approaches to Quebec City; widening to four lanes of another section of Route 1 between Sherbrooke and Magog.

General plans for the more distant future aren't known in any great detail. But Roads Minister Talbot says his department has in hand studies covering roads work worth $1,000 million.

Among important works last year were completion of the Laurentian Autoroute, completion of the Quebec City-Seven Island road along the North Shore of the Lower St. Lawrence, improvement of urban access roads, particularly around Quebec City and Montreal.

Quebec has never taken part in the federal-provincial Trans-Canada Highway program, contending that it represents a federal invasion of the field of provincial rights.

In recent months, conjecture has been that a TCH deal might be worked with Ottawa. **But a recent statement from the provincial government suggests** it will have to be on a basis sharply different from the plans in other provinces, if it is to materialize at all.

Unlike many provinces, Quebec has not provided roadside picnic and camp sites for motorists.

However, it's understood a plan is being worked out to do something of this sort. Details haven't been released.

How Road Bill Climbs

	*1959	1958	1957
	$ millions		
Hard surfaced highways, etc.	438.3	405.2	361.8
Gravel, stone roads, etc.	227.6*	222.2	210.8
Dirt roads, etc.	62.0	53.4	57.8
Grading, scraping, etc.	11.2	11.3	29.3
Sidewalks, paths	21.8	22.2	17.6
Aerodromes, runways, etc.	40.0	35.3	31.6
Bridges, overpasses, etc.	198.6	218.9	168.1
Tunnels and subways	22.1	40.1	53.7
Park systems, landscaping, etc.	13.7	13.9	6.4
Fences, snowsheds, etc.	17.2	16.8	18.8
TOTAL	1,052.5	1,039.3	955.9

*Preliminary estimates for work done.
Source: DBS

Quebec

Trucking Booms

Quebec, with 30% of Canada's population, has only 11% of its rail mileage.

This is a significant fact, one that has played an important role in building up the trucking industry in the province.

During postwar years, Quebec trucking has boomed — and in the process undergone a marked change in character. In a brief to the Royal Commission on Transportation presented at its Quebec City hearing, the Trucking Association of Quebec listed these as the fundamental changes:

- **The industry** itself has grown greatly.
- **Individual firms** have become much stronger and more responsible.
- **Capital investment** in the industry has increased roughly five times, measured in terms of gross investment per firm.

In judging the actual growth of the industry, the association points out that accurate figures are hard to come by. What really is needed, it feels, is some form of ton-mile figure that shows both the weight carried and the distance.

However, the number of tons carried is the only calculation the industry can supply right now. These figures are impressive. For instance, in 1946, the Quebec truckers carried 3,431,733 tons. By 1950 that was up to 5,765,337 tons.

By 1954, the figure was 7,548,745 tons.

From 1955 on, a change was made in the calculating process, with the data now relating only to the larger trucking firms.

They show:
1955—3,460,354 tons
1956—3,706,444 tons
1957—4,450,449 tons

At the same time individual firms in the industry have grown in size. In 1946, reports the association, the average company had 14 employees and a gross investment of $50,895. By 1950, the average was 18 employees and a $66,136 investment.

By 1957, the figures were 36 employees and $261,264.

This emergence of more large firms has had the effect of strengthening the industry. The little man with a couple of trucks still has a place in the provincial system, but the main trunk routes are now served by large and modern fleets.

Gross investment per employee in the industry has reflected this trend toward bigness.

Again, looking at 1946, the gross investment per employee in the industry was $3,602. By 1950 it was down — to $2,659. It has since been rising, hitting $7,200 in 1957.

All this suggests no important interruption in the industry's expansion. The truckers predict a bright future — providing they are not exposed to much "ruinous, subsidized competition". Presumably this refers to railroads and shipping.

Truckers in the province expect reinvestment of capital to run between 10% and 40% annually. They want to keep the industry healthy enough to make that practical.

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Wooden Bridges

Staging A Comeback

Wood has played an important role in the development of Canada's highway system. It's going to play a big role in the future, too.

In the early days, corduroy roads were built as one of the first moves toward making land travel a permanent part of the nation's highway system which up to that time had largely depended on rivers and lakes.

As Canada grew and prospered, bridges appeared — strong, wooden structures, many of them covered — which bore testimony to the usefulness and durability of wood. These bridges have served admirably, too, lasting through the horse-and-buggy era in the days of motoring.

In many parts of Canada today, they continue to render excellent service and the now quaint covered wooden bridge may still be seen on secondary roads in rural areas where traffic conditions are not congested.

But wood, which had its era of supreme usefulness and of glory, began to fade from use in highway construction as new products and new techniques changed the criterion of efficiency and durability in roads and bridges.

Building with wood became old-fashioned, a thing of the past. Young engineers, trained in the use of steel, reinforced concrete and other "new" materials, **regarded wood as a second rate construction material for roads which must be designed to satisfy the needs** of a swiftly increasing number of motorists.

So it came about that only in isolated cases was wood thought of as important in the expansion of Canada's highway system.

The timber industry itself was partly responsible for this state of affairs. Little research had been carried out to find ways of adapting wood to modern-day requirements in bridge construction. Motorists would not put up with wood decking that vibrated. Increasing weight loads carried by trucks made the old-style untreated timber bridges almost completely obsolete.

As a major factor in highway construction wood seemed to be doomed to oblivion.

But today the picture has changed.

Within the past decade timber — one of our great natural resources whose full economic potential has not been realized — has come into favor again.

The reasons:

- **The timber industry has brought about this change by its engineering and technical research,** discovering physical properties of wood which reveal it as a highly suitable and desirable material for many kinds of modern building.
- **Development of laminated construction, pressure treatment with standard preservatives** and a refinement of sawn timber design, have all played a prominent part in the story of the re-establishment of wood.
- **The renewed popularity of wood for bridge use has been spurred on by new and improved design** which makes possible attractive appearances as well as economy and utility.
- **Some provinces, notably B. C., have taken a much harder look at wooden bridges** as a result of the development of modern timber.
- **They have learned that timber suits all types of loads, that it is easily worked** and relatively inexpensive.

One of the chief reasons for the return to favor of timber bridges is, of course, the growth of various companies specializing in structural laminating.

These companies, operating under rigid regulations governing quality control can now produce longer and larger glue-laminated structural units of any desired depth, shape and strength. Glue-laminated girders can be used to support either timber - concrete composite decks or laminated sawn timber decks with asphalt surfacing.

Deck arch bridges through or half through bow-string trusses and parallel chord or through trusses have all been used.

From the transportation standpoint, exponents claim timber is pound for pound the strongest material available and is therefore cheaper to move. It requires no special handling equipment and demands no special protection from the weather.

The fact that timber also allows the maximum amount of plant prefabrication makes it possible to utilize semi-skilled labor on the job to the maximum extent.

Other factors in its favor include the fact that no time need be lost due to weather conditions or the critical temperatures which often affect other materials; and that timber requires only the simplest of connections.

As far as maintenance is concerned, painting of treated timber is not essential. Pressure treatment of all timber, both laminated and sawn is, of course, a definite requirement.

Maintenance is important only during the early months of "settling" following erection, except to the actual wearing surface of the bridge deck.

To sum up:

- **Timber bridges are more than adequate** for the needs of traffic in the foreseeable future.
- **They are adaptable to changes in population** trends and industrial development.
- **They are flexible in that they permit modifications** or removal to new sites as ever-certain changes in road systems are made.
- **They are also said to be economical in the use of public or private funds** — in the first cost and in maintenance charges, as well as in re-use to accommodate changes in conditions.
- **They are suitable for primary or secondary road systems** in regard to appearance or strength and whether for temporary or long - term service.

Road, Street Costs

ROAD AND STREET EXPENDITURE OF ALL GOVERNMENTS
FISCAL YEAR ENDED MARCH 31

	1959-60 (Estimates)	1958-59 (Preliminary)	1957-58 (Actual)
	(thousands of dollars)		
Federal	136,326	109,626	93,808
Provincial	722,849*	694,091†	633,045‡
Municipal§	298,000	274,000	222,000
Total	1,157,175	1,077,717	948,853

§For Calendar years.
*Includes grants to municipalities of $82,383,000.
†Includes grants to municipalities of $76,126,000.
‡Includes grants to municipalities of $67,708,000.
Source: Canadian Good Roads Association.

Photo courtesy Dept. of Highways, Ontario

Soon the women's work begins

Every mile of new road means more work for the thousands of Canadian clubwomen who have joined together to fight traffic accidents. To recognize and reward their achievements, Shell has established the Carol Lane Awards for Traffic Safety which are administered by the Canadian Highway Safety Council. They are given annually to the three women's groups which have carried out the year's most successful traffic safety programs.

This is one of the many traffic safety projects in which Shell participates.

SHELL OIL COMPANY OF CANADA, LIMITED

Highways Across Canada

British Columbia

More millions will be poured into B. C. highways, ferries and bridges this year, to make the B. C. highway system as fine as any in Western Canada.

The government plans to spend $65 million on highways and roads alone. Total for the fiscal year starting April 1—$85 million, up $20 million over the year before.

B. C.'s highways are becoming so good that last year 60-mi.-an-hour zones were established on 1,100 mi. of road.

This caused great controversy and the government's superintendent of motor vehicles, George Lindsay, came right out against government policy and said the 60 mph zones were increasing highway deaths.

Highways Minister Philip Gaglardi steadfastly defends the 60 mph zones: "Studies have showed that although the 1959 fatal accident rate was higher than in 1958, the 60 mph zones showed no greater increase than did the province as a whole.

"We also found that with a 50 limit, 40% of drivers drove at 50 or more, but with a 60 limit, only 11% went at 60 or more."

As the highways improve, there will be more 60-mph zones.

The most important, far-reaching highlight of this year's construction program will be near-completion of a paved arterial, east-west highway across British Columbia. In the past, most of the roads and highways have tended to be north-south, leading to and from the U. S.

Late in 1960, or sometime in 1961, Trans-Canada highway, started years ago, will have reached its objective.

B. C. government is going to press harder than ever on Ottawa this year for financial aid in constructing arterial highways, Gaglardi said: "It is imperative that we start negotiating with the federal government — our proposal has been that we should receive 50% aid for all of our arterial highways through the province. We certainly hope that within the immediate future we shall be able to negotiate a positive policy with Ottawa for continuance of aid on our arterial highways, and we fully expect that the new agreement, when it is made, will not be restricted to two lanes, but to whatever number of lanes are necessary, both in highway and bridge construction."

The B. C. government this year will aid more cities in the cost of arterial highway.

In the past, the government has built all arterials through towns of less than 15,000 population. Now, the government will share 50-50 on arterials through cities like Victoria, Vancouver, New Westminster—at a total government cost of $500,000.

New highway construction through the tortuous, magnificent Fraser Canyon, one of the most spectacular highways in North America, is now nearing completion, after years of upheaval and traffic turmoil.

One new section of Fraser Canyon highway, from Bell Crossing to Sailor Bar, has two tunnels, 450 ft. and 900 ft. lined with concrete. Close proximity of the road to the railway taxed the ingenuity of the engineers and contractors.

The costliest road project in Canada is for reconstruction of 1.18 mi. of Trans-Canada highway in the China Bluffs section of the Fraser Canyon — $2,242,723.

This latest, and one of the last contracts to bring the Fraser River route up to Trans-Canada standards, is highlighted by a 2,000-ft. tunnel through solid rock.

Gaglardi said the lower mainland — where most of B. C.'s population lives and works—has never experienced a greater amount of construction of highways and bridges.

Bridge-building has become big business in B. C.—few provinces need as many bridges—this year, work is in progress, or contracts will be let, on 44 new bridges.

The largest bridge project commenced this year was the crossing of the Fraser River at Port Mann — so that increasing traffic between Vancouver city and its "bedrooms," in the Fraser Valley may be more quickly handled.

This bridge will do much to relieve the present congestion on Pattullo Bridge (at New Westminster). It will be a high-level, four-lane structure, 6,870 ft. long, and will form part of the Trans-Canada Highway.

The highway in this area is being constructed as a freeway, on an entirely new location; passing to the south of Burnaby Lake, and connecting with the new Second Narrows Bridge (to be completed late this year), thence westerly through North Vancouver, and into the city of Vancouver proper.

The historic Cariboo highway — the trail of 1858-60, over which the gold miners tramped—or rode on camels or in stagecoaches—is now in *first class condition.*

This road is an important link in the route through B. C. from the U. S. to Alaska — from Vancouver, over the Fraser Canyon highway, the Cariboo highway, the John Hart highway into the Peace River country at Dawson Creek, and from there over the Alaska highway 1,700 mi. to Fairbanks.

Ferries are an integral part of B. C.'s highway system-crossing saltwater of the Peace Ocean, rivers and lakes.

In June next, the government's two new ferries, now nearing completion at a cost of nearly $7 million will go into service between Swartz Bay, 20 mi. north of Victoria, and the lower mainland, near the B.C.-U.S. border—a two-hour trip. The government went into the ferry business when the C.P.R. showed it's no longer much interested in winter service between the Greater Victoria area and the lower mainland.

The new vessels, the Sidney and the Tsawwassen, are 330 ft. long, powered with 300-hp engines, have cruising speed of 18 knots, and will carry 106 vehicles and 500 passengers each.

In all, in the last year, 52 ferries of all sizes and shapes, were operated by the department of highways, and they carried more than two million vehicles and more than five million passengers.

However, new bridges at Kelowna and Nelson have done away with two of the busiest ferry systems in the province.

Wherever possible the government will junk the ferries in favor of bridges.

Mr. Gaglardi even looks forward to the day, perhaps 15 years away, when there'll be a tunnel between Vancouver Island and the mainland.

He said creation of the B. C. Toll Bridges and Highways Authority by this government has enabled this department to accelerate development of the over-all expressways system by 10 years.

Roads Spending

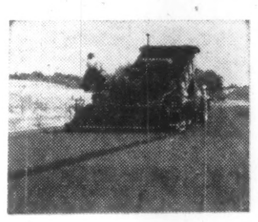
CONSTRUCTION, MAINTENANCE AND ADMINISTRATION EXPENDITURE BY ALL GOVERNMENTS FISCAL YEAR ENDED MARCH 31

	1959-60 (Estimates)	1958-59 (Preliminary)	1957-58 (Actual)
	(thousands of dollars)		
CONSTRUCTION			
Federal	121,826	95,503	81,150
Provincial	505,791	478,967	440,987
Municipal	134,000	112,000	93,000
Total	761,617	689,470	615,137
MAINTENANCE			
Federal	12,350	12,273	11,554
Provincial	190,876	192,098	172,064
Municipal	164,000	162,000	129,000
Total	367,226	366,371	312,618
ADMINISTRATION			
Federal	2,150	1,850	1,104
Provincial	26,182	23,026	19,994
Municipal	....	....	....
Total	28,332	24,876	21,098
TOTAL	1,157,175	1,077,717	948,853

NOTE: The division of expenditure into construction, maintenance and administration categories has, in many cases, been arbitrary and should be so regarded.

Source: Canadian Good Roads Association.

MEETING ALL THE TESTS OF TIME



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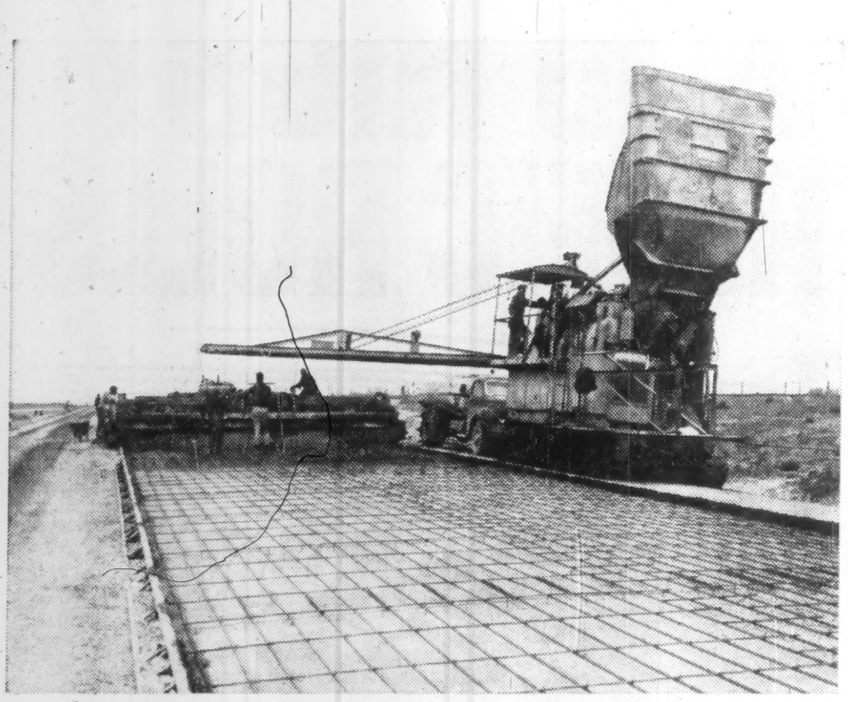


LAYING CONCRETE on the main highway between Calgary and Banff, Alta. This is regarded as one of the finest stretches of road on the continent.

Milk Leads Tanker Growth

One segment of the trucking business that's booming in Ontario:

Use of bulk tankers.

Specially developed tanks mounted on trailers are now hauling bulk commodities that never before moved by truck — or that previously moved in drums, barrels or bags.

Big advantage:

Direct delivery into storage at destination, eliminating considerable handling.

Cement is an example.

Formerly carried almost exclusively in bags, which were heavy and awkward, big tonnages of cement now move in tank trucks equipped with blowers which can lift it perhaps 20 ft. into a storage bin.

Grain and feeds also are moving in tank trucks instead of in bags.

Equipment includes augers for loading and blowers for unloading.

Burgeoning developments in chemicals have made necessary provision of tanks with special liners, to handle them.

Some of these products have moved only in such special trucks.

But one of the most spectacular areas of growth is in milk handling.

In 1956, there were 20 tank trucks handling milk on Ontario highways.

Last year 190 were licensed.

Bulk farm shippers — using the tanks—have increased from 453 to 3,752 in the same period.

Dairies, equipped to receive and store such bulk shipments, now number 56 in 29 centres, compared to 13 four years ago.

Such a transformation involved considerable investment in equipment.

Each of the trailers with its stainless steel tank cost in the neighborhood of $20,000.

Each farmer shipping in bulk spent $2,000 to $2,500 on cooling equipment to keep his milk over a two-day period instead of for one day.

Because the driver must test each shipment of milk as he collects it, each driver took a one-week course in milk grading at Ontario Agricultural College, Guelph.

(Being better trained, he now, of course, is better paid.)

Investment by the dairies also reached many thousands of dollars.

One result:

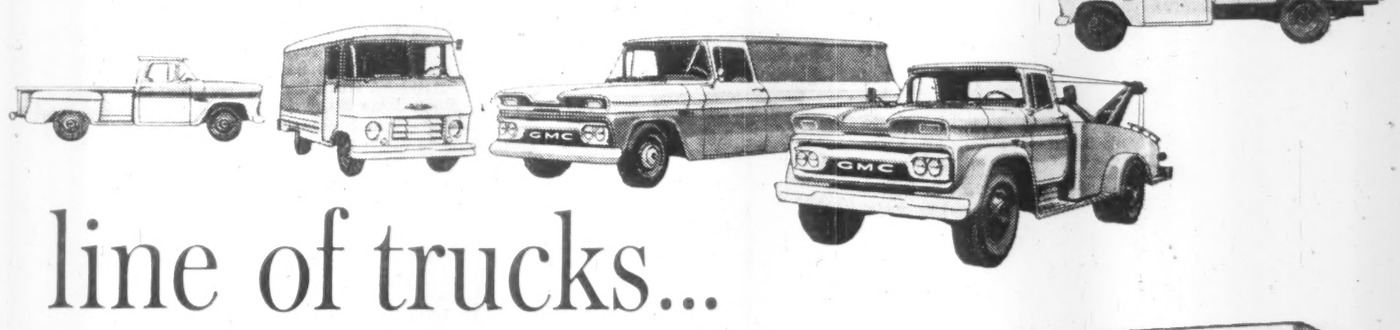
The "mixed farmer" who kept a few dairy cows and shipped one or two cans of milk a day had to find other markets or go out of fresh milk production.

On that volume, he couldn't afford the cooling equipment.

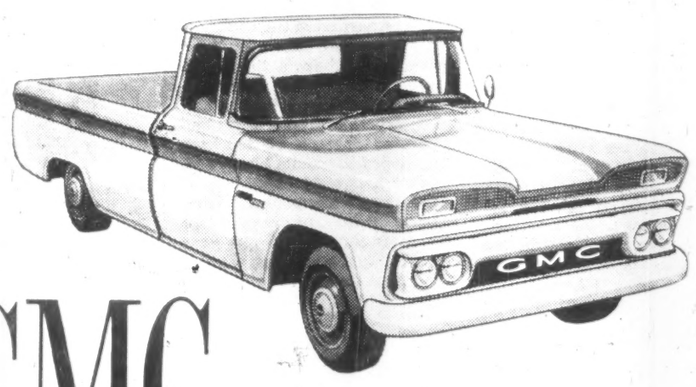
For the consumer:

Better quality milk, because it is cooled as soon as it is taken from the cow.

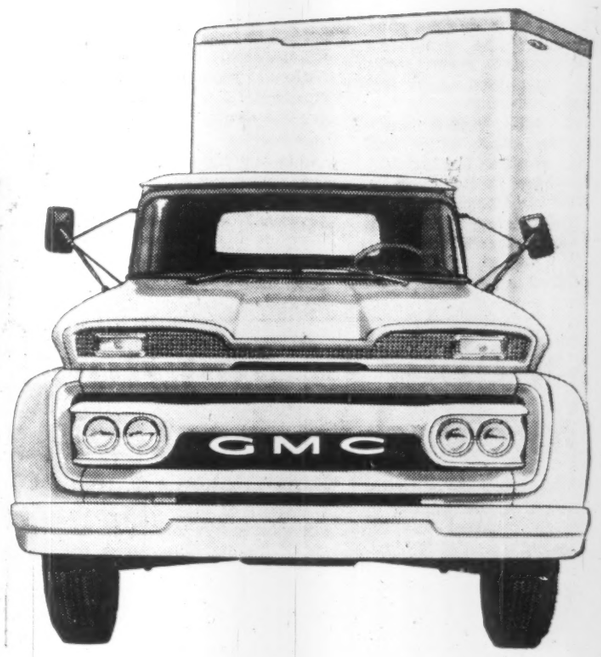
more than just a new



line of trucks...



GMC



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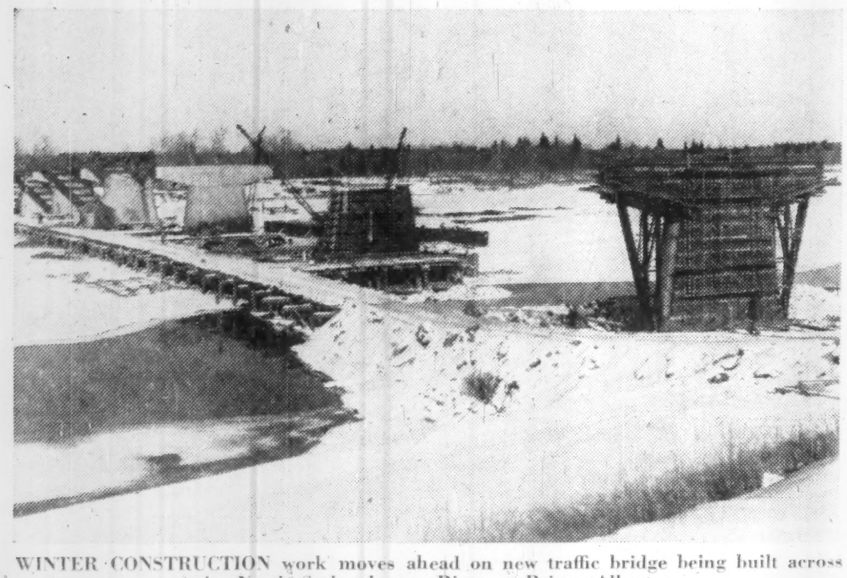

WINTER CONSTRUCTION work moves ahead on new traffic bridge being built across the North Saskatchewan River at Prince Albert.

Highways Across Canada
Saskatchewan

In the 1959-60 roadbuilding season, the Saskatchewan government spent about $23 million on highway and road construction and maintenance.

This was completed during the calendar year 1959 before the onset of winter.

Despite bad weather during the season, construction of 121 mi. of paving, 139 mi. of oiling, 330 mi. of gravelling and 428 mi. of grading was completed.

In addition, under the maintenance program, 86 mi. of highway were resurfaced and 825 mi. regravelled.

According to Highways Minister J. T. Douglas, 25% of Saskatchewan's highways are now dust-free (paved or oiled) and all cities in the province are linked with three border crossings and three interprovincial connections.

In the coming 1960-61 construction season, the government plans to spend about $25.5 million on highway construction and maintenance. During the period about 2,400 mi., or more than one-quarter of the province's whole highway system, will have work done on it this summer.

This will include some four-lane construction and further work on the highway north of Lac La Ronge which is being built from the townsite of La Ronge to Uranium City, a distance of 824 mi.

About 30 mi. of this was completed last summer, some of it in muskeg.

A four-lane highway will be built east of Regina to Balgonie (grading), a distance of 15 mi. and north from Regina to Lumsden, a distance of about 20 mi. The latter will take a new route, shortening the present distance of 24 mi.

In all, about 40 other highway construction projects will be undertaken at various locations throughout the province. These will include grading, gravelling, oiling and paving.

It will include 199.73 mi. of paving, 221.39 mi. of oiling, 516.9 mi. of gravelling and 566.46 mi. of grading.

The highways minister recently said that the government may be called on to build more four-lane highway than it can afford.

Experience with traffic on highways No. 1 and 11 out of Regina suggest this. He also calculated that during the next 20 years the province will have to spend $600 million to build and maintain the highways that will be needed to cope with expanding traffic and obsolescence.

He also warned that higher standards for highways in the future will call for higher expenditure.

Already his department is spending more on roads and highways than received in revenue from highway users.

"It is questionable if we can cope with our road problems from this source alone," he said.

It is obvious, he maintained, that the federal government will have to help in financing provincial highways in the future.

He bolstered his argument by pointing to U. S. federal assistance to the states of Montana, North Dakota, South Dakota and Wyoming. In 1960 all of these except North Dakota will each receive more federal aid than the whole of Saskatchewan's budget for highway construction.

Included in Saskatchewan's current highway program are two projects under the Saskatchewan River dam agreement.

These will take care of heavy traffic from existing highways into the dam site near Elbow.

Also slated for this summer is paving of No. 39 highway south from Estevan to North Portal, the port of entry at the U. S. border. This is an important artery of traffic. Work will also be done on No. 2 highway south of Assiniboia leading to the U. S. border. This highway is now paved from Assiniboia to Moose Jaw, 43 mi. of it being completed last summer.

These are only examples of the numerous projects that are slated for 1960.

The minister also has disclosed more than a dozen projects slated for the following year, 1961. These were announced so that contractors could get in their bids by next fall.

Number of Manitoba Trucks Doubled in Last 14 Years

Not including farm transport vehicles, the number of trucks in constant use for commercial purposes in Manitoba has more than doubled since 1946.

In about the same ratio, the province's highway transport business has moved ahead to reach its peak in 1959.

In early months of the year, the forecast of tonnage volume was higher than it actually turned out.

This was because of disturbing incidents late in 1959 such as the steel strike, tight money, the October crop disaster, which had indirect effects on general business, including the trucking industry.

At that, the 1959 volume so far as can be estimated was from 10 to 15% higher than in 1958.

The number of public service vehicles and trailers licensed for highway transport by the Manitoba Motor Carrier Board was not appreciably higher, 1,589 in 1959 and 1,580 in 1958.

Because of better equipment and higher average tonnage capacity licence fees paid to the Board were $901,918 in 1959 compared to $756,737 the previous year. The comparative figures could be a reasonably accurate gauge of the increase in business volume.

In any case the growth of highway transport is reflected in the increased number of licenses issued for public service vehicles, 771 in 1946, 994 in 1950, 1,322 in 1955, and now close to 1,600.

This does not include licences issued by the Motor Carrier Board for commercial trucks operated by firms for transport of their own merchandise in territory 15 mi. or more beyond the point of registration. In 1946, there were 1,220 of this type, 2,589 in 1955, and 3,003 in 1959.

With opening of the St. Lawrence Seaway last year, the trucking industry in Manitoba anxiously awaited its effects. One year was not expected to be a reasonable test.

At any rate it had no discernible impact.

But there are still high hopes the Seaway will eventually build up an east-to-west package freight volume from the lakehead which so far has been far below that from Winnipeg east.

Most retailers in Fort William and Port Arthur get their supplies from distributors in Winnipeg.

With reasonably good highway facilities over most of the 400-mi. route which are being improved each year, trucking firms under present conditions are able to give fast lakehead service. Orders placed one day are delivered the next.

On the return to Winnipeg, shipments are light, lowest in the closed navigation season.

Trucking firms expect the Seaway will eventually bring two-way traffic into balance.

There will be other contributing factors, better highways, higher standard equipment, and improvements in packaging by shippers.

With road improvements in the western provinces, particularly the Trans-Canada Highway, a noticeable trend is the growing diversion of transport trucks from U. S. routes.

Many which have usually entered Canada at some point in Saskatchewan have recently been coming in at Emerson and using Canadian highways.

One reason is because of reciprocal arrangements between Manitoba and midwestern states. These are in force with Michigan, Wisconsin, Iowa, Indiana, Missouri, Kansas, Minnesota, North Dakota and Nebraska.

Most Manitoba points have daily truck transport, some where no other form of surface transportation is available. Some of the main centres in Saskatchewan are also serviced daily from Winnipeg.

Interprovincial carriers licensed by the Manitoba Motor Carrier Board serve 44 main centres in their intermediate points in western Canada, 44 in Ontario, 10 in Quebec, two in New Brunswick and two in Nova Scotia.

Size and weight requirements for public service and commercial vehicles and safety requirements are prescribed by the Motor Carrier Board. Franchises are issued for specific routes.

Licences are issued for operating on them, the fee depending on weight, a maximum of 72,000 lb. for designated roads, the licence fee for this largest unit $1,475 a year.

Figures on Manitoba profits of the industry are not easily available. The business is highly competitive.

Most of the operators make profits, as year by year they improve equipment and service.

Highway Aids Nfld. Truckers

The trucking situation in Newfoundland brightened last year as it became possible to drive across the width of the province.

Not that the road is in excellent shape — some tailpipes and windshields were broken by flying stones and ruts — but at least the highway is there.

Truckers in St. John's have taken loads the length of the highway, 570 mi. Some trucks from the mainland have crossed the gulf from North Sydney and transported goods part way across the island.

There are no new regulations but these will come with the advent of bigger transports when the road is paved or put into better shape.

A boon for the owners of big trucks, especially the two newsprint mills, came recently in a reorganization of licence fees.

A study revealed fees for vehicles of gross weight of 7,000 to 14,000 pounds were lower than the fees being charged in other provinces and fees for vehicles with gross weight of from 16,000 to 30,000 pounds were considerably higher.

As a result of the study, the cabinet has approved of a new scale of fees.

The fees for several classes of smaller vehicles have been raised slightly. **The fee for a truck with a maximum gross weight of 8,000 lb.** has been increased from $40 to $45; the fee for a 13,000-pound vehicle from $85 to $95.

The fee for a vehicle with a gross weight of 16,000 pounds or over has been considerably reduced. The fee for a 20,000-pound truck has been reduced from $280 to $210; 24,000-pound vehicle from $450 to $250; and 27,000-pound vehicle from $600 to $280.

These reductions mean that truckers engaged in hauling pulpwood and other heavy loads will, in some cases, be paying half the old scale.

Truckers are reluctant to discuss profits, but last year was one of the best they have had. Apart from the continuous trucking for business firms to and from the docks and to and from **Canadian National Railways** yards, the construction business has boosted income of truckers equipped to handle heavy and often awkward loads.

Power companies have been using truckers more heavily during the past year with imports of more electric light crested poles from other parts of Canada or from abroad.

These require a trailer-like steel frame conveyance, a type now owned by several truckers.

Eight-wheel trailer bodies are often required for hauling large generators, boilers and other heavy equipment from the English boat — meaning a ship from Liverpool, Eng., with equipment for **Bowater's** or **Anglo-Newfoundland Development Co.** The pier of **Furness, Withy Co.** is located in the east end of St. John's and the heavy loads have to be hauled 1.5 mi. to the railway station for transshipment over CNR lines to destinations.

One St. John's trucking firms has just received a Bucyrus Erie model H-5 Hydrocrane, the first of its kind here.

A new use for trucks in winter was occasioned by bad flying weather this year. A local airline flies airmail from Gander to northern regions.

This year, mild weather made ponds unsafe for landings and storms and fog reduced flying time and piled up the mail. So trucks were being used to clear up 35,000 pounds of backlog.

Truckers in Newfoundland are about to enter a new phase of their activity.

With the opening of the Trans-Canada Highway, they will be able to take heavy loads out of Newfoundland aboard the luxury ferry William Carson at Port aux Basques.

Some may soon go into refrigerated trucking to take frozen fish fillets to other sections of Canada and return with fresh frozen fruits and vegetables.

Completion of the Trans-Canada Highway will mean a lot to truckers and will change the entire outlook and income of old Newfoundland trucking firms.

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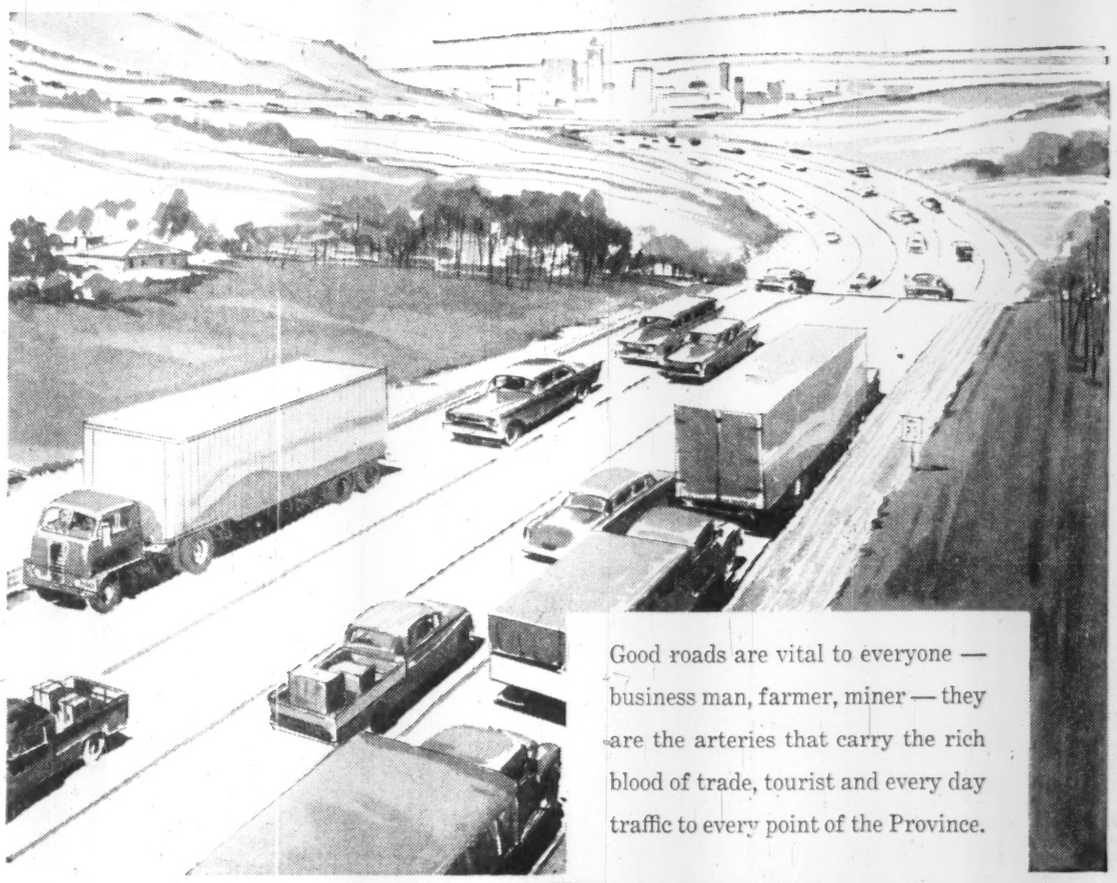

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LA PROVINCE DE Québec

SNOW CLEARING is a major operation on Ontario highways and the provincial highway department uses equipment like this to clear blizzard-swept roads.

Highways Across Canada
Ontario

Ontario's highway spending for the coming fiscal year will generally maintain the pace set by the year ending Mar. 31, 1960.

The 1960-61 budget: is $253 million.

Amounts for this year, broken down (with 1959-60 figures in brackets):

Construction, $177,700,000 ($181,362,000).

Maintenance, $75,500,000 ($74,399,000).

These figures indicate priority will be given to completion of major projects already under way as well as the launching of others, essential to meet growing demands from Ontario's expanding economy and population.

From the Quebec border to Windsor, Ontario is building a dual lane controlled-access highway just over 500 mi. long.

Scheduled for completion in 1963, it will provide an easy, one-day motor drive.

Each year, additional sections of Highway 401 are coming into operation.

At the end of 1959, 273 mi. were in operation.

Of this total, 43 mi. were completed in three sections during 1959 — extension of the Kingston bypass from the Joyceville side road to Gananoque, 10 mi.; from Long Beach, 5½ mi. west of Brockville to Prescott, 19 mi.; from No. 10 Highway west to No. 25 Highway, 14 mi.

In addition, the section of No. 401 Highway from Newcastle west to Port Hope is nearing completion for opening early this year.

Work is underway on other sections including a section between No. 25 Highway and Eastwood at the eastern end of the London bypass.

Like all other highways in the King's Highway system, Highway 401 will be free from tolls.

As its share in the Trans-Canada Highway, Ontario is about to complete 1,454 mi. of highway from the Quebec border through Ontario to the Manitoba border.

The entire Trans-Canada Highway runs over a distance of some 4,500 mi. from coast to coast, not including Quebec.

The most spectacular part of the work on this road has been the construction of 164 mi. of new highway around the east shore of Lake Superior which will open a route between Sault Ste. Marie and the Head of the Lakes.

East of Fort Frances a causeway is under construction over Rainy Lake and former Highway 120, now the western section of Highway 11, will be extended westerly from Atikokan to close the gap now existing between Fort Frances and the Head of the Lakes. The completion of the Rainy Lake Causeway and Highway 11 will provide a new scenic route which will undoubtedly attract a great deal of tourist travel between the U. S. and Ontario.

Dual-lane Highway 400 which starts at Toronto has been carried farther north to provide a direct connection with the Trans-Canada Highway west of Orillia and will be extended still farther to serve the Muskoka area.

These highways serve important recreational areas which generate large volumes of tourist traffic.

The 22-mi. extension of Highway 400 from near Crown Hill to Coldwater was opened recently for winter traffic.

It is a more direct link between south-central Ontario and the Trans-Canada Highway serving the Parry Sound district, Sudbury and points north.

Under a recent arrangement with the provincial government, a $15 million program of resources roads will be undertaken. While these roads are primarily meant to facilitate development of untapped natural wealth, it is not too difficult to visualize the added attractions for devotees of rod and gun.

The province has begun work on a high-level bridge which will take the Queen Elizabeth Way over the Welland Canal at Homer and eliminate a serious "bottleneck on this important artery.

On the Queen Elizabeth Way, widening of bridges to six lanes over Bronte Creek, Oakville Creek and the Credit River and the construction of new interchanges and service roads prepared the way for planned widening of the Q.E.W. to six lanes with full control of access.

On Highway 11, progress was made in widening sections north of Barrie to four lanes and the Huntsville bypass was completed.

West of Cochrane, Highway 11 was improved and the Hunta division was completed.

Nearly all of this highway now is paved between Cochrane and Nipigon. The balance of the paving is to be finished this year.

These are only a few of the highlights of Ontario's construction program on King's Highways and even as work is starting on construction in 1960, pre-engineering for the 1961 program is well under way.

A total of 478 contracts were completed during 1959, of which 308 were for capital expenditures and 170 were maintenance.

Work completed included 650 mi. of grading, 479 mi. of hot mix paving, 54.6 mi. of concrete paving, 118 mi. of resurfacing and 73 structures.

Some of this work was begun and partially completed in previous years.

The cost of existing and future needs for King's Highways and secondary highways in Ontario has been estimated at $2.7 billion over a 20-year period.

At the present rate of progress, the entire program will be completed about 1970 and, well before that time, Ontario's major highways will be more than able to handle the increases in traffic volumes.

In the fiscal year of 1959-60, Ontario's Department of Highways has made a gross expenditure of over $200 million on King's Highways and secondary highways, exclusive of subsidies to municipalities for construction and maintenance of rural roads and urban streets, and amounts spent on development roads which bring the gross expenditures up to $272 million.

During the year ended Mar. 31, 1960, the Department of Highways called contracts for nearly 700 mi. of grading, culverts and granular base, 529 mi. of hot mix paving, 24 mi. of concrete paving and 95 structures.

Along with these more spectacular projects, substantial improvements were made on all King's Highways and secondary highways which comprise the 11,400 mi. provincial system.

This work will be continued in 1960 as part of a long-term program of highway improvement designed to anticipate a further boost in motor vehicle traffic.

400 Firms Trucking In N.B.

A sharp increase in volume of local and outside freight and express handled by trucking firms in New Brunswick has been shown in each of the last three years.

During the same period there has been a sharp jump in the number of trucking companies applying for franchises to haul into and through the province.

Today roughly 400 provincial, Central Canadian and U. S. companies hold New Brunswick Motor Carrier Board licences to operate in and out of the province.

Two of the largest operators, **Smith Transport Ltd.,** and **Motorways (Canada) Ltd.,** have purchased outright or acquired control of several local companies operating from various provincial centres.

Besides doing a large general business, **CNR Transportation Ltd.,** carries on piggy back services at various centres for the parent railway company and **Smith Transport** a similar service for the **Canadian Pacific Railway.**

Generally speaking, trucking companies had a very good year in 1959 from a standpoint of volume and returns.

Volume handled by the furniture movers has been especially noticeable, with a large movement between points outside the province and Oromocto, for Camp Gagetown's married personnel, as well as the RCAF station at Chatham.

Up to three or four years ago, the trucking firms for the most part confined their activities to operating between provincial points and New England centres.

Operations were largely limited to hauling New Brunswick fish products and pulpwood and long lumber to points in the New England states with return loads of fruit.

During the past three years, there has been a large boost in general freight and express handled between the province and Quebec and Ontario.

In recognition of tire sizes and the resultant spread of weight loads on highways, legal gross weights running from 22,000 lb. to 70,000 lb. were put into effect Jan. 1, by the provincial government.

Two major increases were in the combination transport vehicles with four and five axles with tires 10 in. or more in width.

The four-axle combination may now gross as high as 60,000 lb. from a previous 54,000 lb. and the five-axle combination may now gross 70,000 compared with previous maximum of 60,000 lb.

Additional weights, it is claimed, will be of great assistance to the agricultural and forest industries in the transportation of bulk feeds, long distance produce hauling, lumber and pulp.

They will also benefit distribution of petroleum products, fabricated steel products, cement and building materials and bulk products.

At a private sitting in January, the New Brunswick Motor Carrier Board ruled that a holder of a licence from the board which does not specify "intermediate points" but wishes to serve such points will have to apply for a public hearing to have this included in the licence.

This policy has been followed since 1958 but is now applied to all those licences issued before that date.

Meanwhile, the board is giving consideration to submissions for extra-provincial carriers to serve intermediate points between major commercial centres.

The board is endeavoring to work out a solution for equality between carriers, shippers and the general public.

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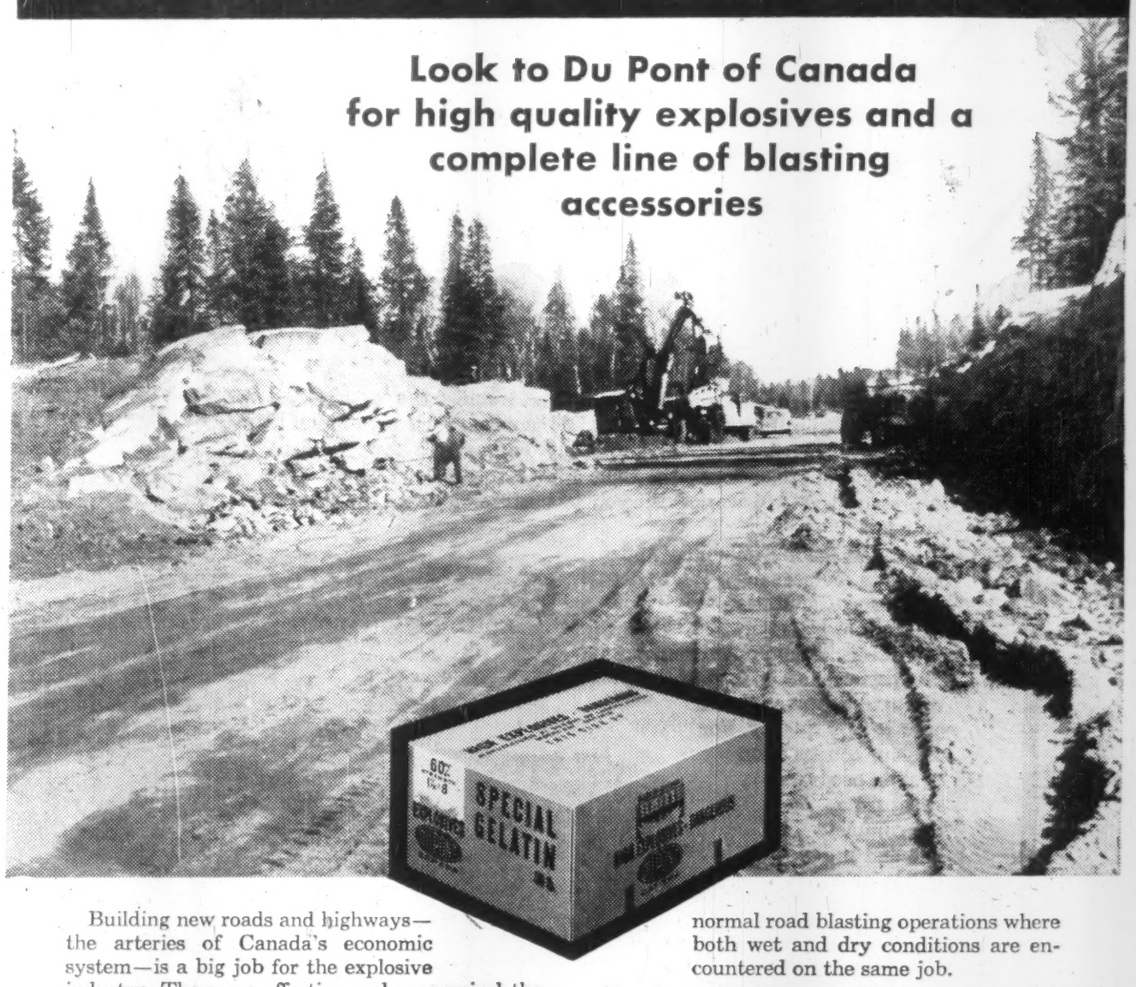

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Highways Across Canada

Alberta

In the 1959-60 fiscal year, Alberta undertook a record-breaking $72 million highways program but adverse weather conditions had a jarring effect.

Consequently, some projects will not be completed until spring work opens this year.

Provincial government officials estimate that jobs costing in the neighborhood of $8 million remain to be completed from last year's program.

The actual mileage of new construction completed in 1959 was 1,482.

This includes 320 mi. of gravelling which was the full program for that type of construction.

The full program of 194 mi. of asphaltic seal coat also was completed.

The 389 mi. of grading represented about 80% of the year's program, while 180 mi. of stabilized gravel base course was about 70% of the program.

Reports showed 193 mi. of asphaltic hot mix surface course completed, which was 91% of the initial program.

In addition, there were 220 mi. of double asphaltic surface treatment, covering 90% of the proposed program.

During 1959, three contracts were awarded for a soil cement stabilized base course with an asphaltic two-inch lift, comprising a total of 46 mi.

Due to weather conditions, only 29 mi. were completed.

Last year the highways department continued the multi-lane highway construction program.

This work was carried out on No. 2 highway, southward from Nisku which is just south of Edmonton; from High River south, in southern Alberta; and on highway No. 16, west of Edmonton.

The four-lane highway from Calgary north to Red Deer, in central Alberta, is mostly divided and now has been completed.

This year, the department plans to extend its four-lane divided highway program from south of Edmonton towards Leduc and ultimately to Red Deer where it will link with the present one from Calgary.

Last year, the highways department had high hopes that it would be able to complete the stabilized gravel base course and "blacktop" surfacing of the arterial highway between Edmonton and the B. C. boundary in the Peace River district.

This is No. 43 highway, running through Whitecourt and Valleyview.

Because of wet weather last summer and in the early fall, the program could not be completed.

Some 27 mi. of road were not completed and this will be finished as early as possible on the 1960 program.

When this paving is completed, Alberta will be the only province in Canada having a blacktop road from the U. S. boundary to a point so far north. It is already being described as the "paved corridor to Alaska."

Last year saw the largest bridge program ever undertaken by this branch of the highways department.

During the year, 45 separate bridges, each costing over $50,000, were started.

In addition, there were five projects carried over from the previous year.

The last three structures required on the Trans-Canada highway in Alberta were started. One was completed last year and the two others will be finished in 1960.

The Alberta government also is erecting a large suspension bridge across the Peace River at Dunvegan. This is expected to be opened to traffic this fall.

For the 1960-61 fiscal year, Alberta's highway program is just over $71 million and slightly below the 1959 budget record.

The big item this year is $31 million for construction of main highways, a reduction of $1.4 million from the 1959 appropriation.

As the Trans-Canada highway is nearing completion, so far as Alberta is concerned, the estimated outlay for this road is $1.2 million, as against $3 million last year.

For construction of highway bridges, capital account, the vote this year is $6 million, a reduction of $2 million from last year's appropriation.

The 1960 roads program also includes a vote of $3.5 million under a "roads-to-resources" program, part of which will be repaid by the federal government.

Much of this will be spent on widening and straightening the Mackenzie highway in northern Alberta.

This year, Alberta also is expanding its program of wayside campsites along highways.

There are 112 completed campsites along main and secondary highways. Some financial assistance is provided by the federal government.

New Bridge Completes Autoroute

Motorists can now speed to the lake-studded Laurentian mountains, summer and winter vacationland north of Montreal, via a brand new superhighway, the Laurentian Autoroute.

Carrying the Autoroute over two intervening rivers—the Riviere des Prairies and the Riviere de Mille Iles—are two bridges. The former was completed in the fall of 1958; the latter was completed and opened to traffic last year. Steelwork for both bridges was fabricated and erected by the Montreal branch of **Dominion Bridge Co.**

The Riviere de Mille Iles as its name implies, is dotted with many small islands. The Mille Iles crossing is an island-hopping structure, one third of a mile long, consisting of two viaduct sections over land and two bridge sections over water.

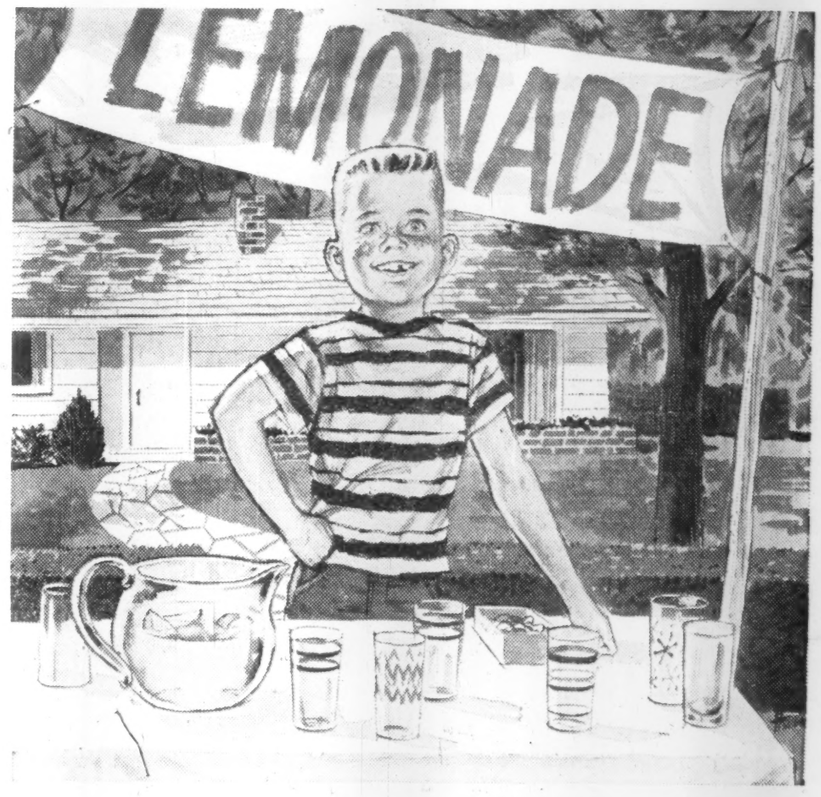
The first viaduct section from the south bank of the river is 356 ft. 6 in. long, consisting of six spans averaging 59 ft. between piers. This is followed by a 900-ft.-long bridge section in eight spans—six at 120 ft. and one 90-ft. span at each end.

Next is another viaduct section 1,273 ft. long over an island similar in construction to the first southern viaduct but with 18 spans, averaging 63 ft. 9 in. each.

Completing the link with the north bank is another bridge section with seven spans between piers and a total length of 780 ft.

The bridge sections are of parallel girder design. Parallel beams were used on the viaducts.

Width of the roadway throughout the entire length of the structure is 94 ft. consisting of 4-ft.-wide maintenance sidewalks on each side and two 38-ft. traffic lanes separated by an 8-ft. mall.



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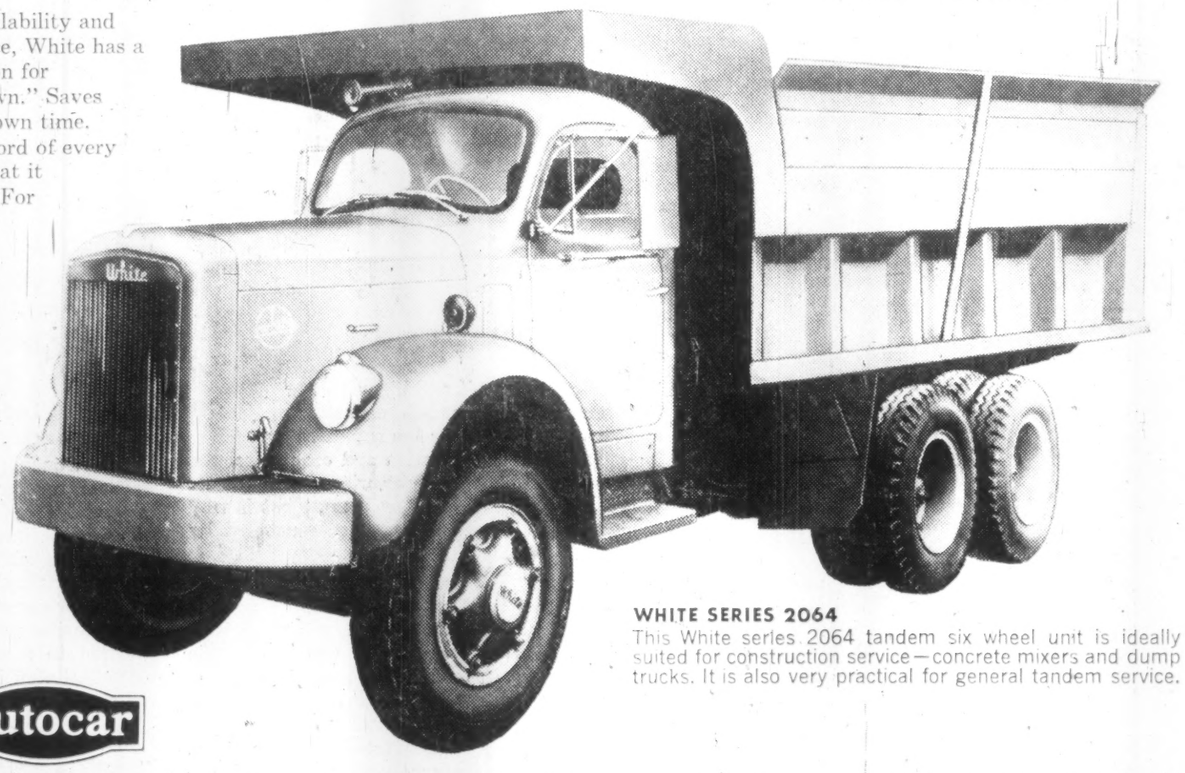

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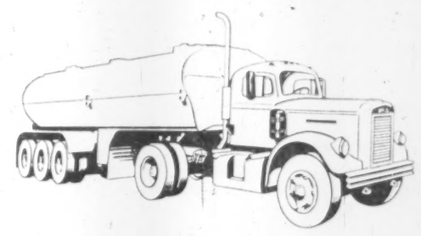

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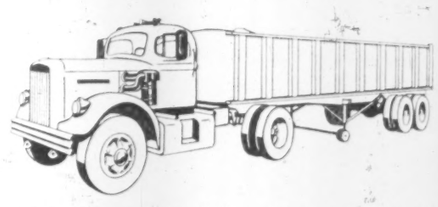

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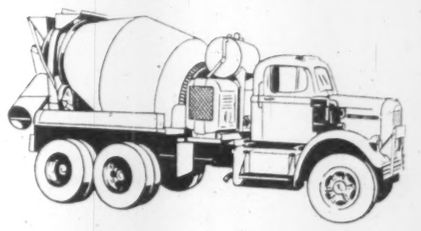

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ROADBUILDING in Newfoundland presents rugged terrain to roadbuilders. This scene is in the Gander area.

Highways Across Canada
Newfoundland

In the fiscal year ending March 31, Newfoundland earmarked $6,834,000 for the Trans-Canada Highway and $4,750,000 for maintenance of other roads and bridges.

However, due to delay in bringing down the 1959 budget because of fiscal arrangements with Ottawa, a large amount of that money could not be spent and some is being carried over.

Tenders are now being awarded for road strips to be started as soon as weather conditions permit.

Biggest single item is paving of the road from St. John's to Whitbourne, the most easterly section of the Trans-Canada Highway, estimated to cost $3.4 million and bridges in the section, $300,000.

Most of Newfoundland's section of the Trans-Canada highway is only a dirt road, widened to specified standards. Delay in paving is naturally wearing down the surface.

Dr. F. W. Rowe, minister of highways, says it will take Newfoundland another 10 years to complete its section of the Trans-Canada highway if the dominion-provincial 50-50 agreement on cost is renewed.

The provincial government has spent $42 million on the TCH since 1950 and to complete it from St. John's to Port aux Basques will cost $60 million more, he declared.

Dr. Rowe says a new formula is necessary for Newfoundland which has:

- **The largest proportion** of any province to build.
- **Fewer people than any province**, except Prince Edward Island.
- **The most difficult terrain** for road building in Canada, if not in North America.

Also the highway has to cross every major river with the additional cost for bridges.

He says, in Newfoundland, the ratio of miles (roughly 600 less the strip through Terra Nova National Park, to be built by the federal government), per 100,000 people is twice that of the next province and five times that of Alberta and Ontario.

Dr. Rowe feels federal government should undertake 90% of the cost of the uncompleted sections of the TCH in Newfoundland. This was his personal feeling; but, he added, a more realistic view would be to hope for 75% of the cost being underwritten by Ottawa.

Since last July, traffic has been flowing easily from St. John's to Port aux Basques. At year's end approximately 287 mi. of the total distance of 570 mi. had been graded to Trans-Canada standards, including the 25-mi. section through the Terra Nova National Park, of which 14 mi. had been paved.

Construction of the Trans-Canada highway in 1959 proceeded under 23 separate projects consisting of eight grading contracts, six bridges and grade separation contracts and nine paving contracts. A number of these contracts consisted of continuation works started in the previous year.

Most important: the new road from the outskirts of St. John's along the Kenmount Road to the Donovan's overpass and from there to the Hodgewater Line.

This section is being built under contract with **McNamara Construction (Nfld). Ltd.** This 4.1-mi. section will be paved this year. On the 38.5-mi. section from the overpass to the Hodgewater Line, 6.5 mi. were paved last year. This, it is hoped, will also be paved this year.

Last year there was a further advancement in the government's paving program and 56 mi. of highway were paved, 28.2 along the TCH and the remaining 27.8 on provincial roads.

All pavement laid was of the hot mix, hot laid bituminous type, except that done at Bell Island, Harbour Grace and Carbonear, where cold mix pavement was applied.

Department of highways has its own hot mixing paving plant, acquired in 1958, and did just over three miles in one section.

On Bell Island another departmental paving crew was employed on the laying of a four-inch cold mix pavement on two miles of main road and a two-inch cold mix surface course on a further 1.7 mi. of road, on which base course had been laid in the previous year.

The new system of mechanized maintenance introduced in 1957, is working well.

Seventy maintenance teams were employed in 1959, each consisting of a gravel plant, bulldozer, front end loader or shovel, grader, four trucks and six laborers.

In addition to maintaining over 3,400 mi. of gravel highways many miles of road were widened, ballasted and improved.

Snow-clearing was costly last year and may be just as heavy a drain on the treasury again this winter.

The winter of 1958-59 was the most severe in 25 years, total snowfall for St. John's being 186.8 in.

Main highways were blocked as long as three days.

This winter, not as severe frost-wise with no zero weather, has however, produced much snow.

Teach Pedestrians to Live

Largely ignored in the fight to reduce highway deaths is the behavior of the pedestrian.

About 25% traffic deaths are those of pedestrians on the road.

Of 2,673 killed on Canadas' roads and streets in 1958, 619 were pedestrians.

One hundred of those were over 65 years of age; 68 were under five.

Canada has the fourth worst record in the world in pedestrian traffic deaths.

Heading the list is Japan.

Safety organizations regard the training of pedestrians, young and old, to sounder habits of safety, as one of the most promising prospects of over-all reduction of highway accidents.

In the U. S., the American Automobile Association studied pedestrian deaths and launched a crusade in 1937 to reduce the number of fatalities.

In that year, 15,500 pedestrians were killed in the U. S.

In 1957, the number had been reduced to 7,800.

Called the Planned Pedestrian Program, the AAA scheme has spilled over into Canada.

The more than 600,000 members of the Canadian Automobile Association have taken the Planned Pedestrian Program under their wing.

The Planned Pedestrian Program is a survey of what 137 municipalities in Canada are doing to curb pedestrian deaths.

The survey forms ask:

- **Pedestrian casualties** over a four-year period.
- **Action of the pedestrian** prior to being struck.
- **Condition of pavement,** signals at the site, etc.
- **Legislation and enforcement** of laws covering pedestrian action on streets.
- **Engineering** by the city to reduce pedestrian hazards.
- **Educational programs** designed to make pedestrians more wary when on the streets.

Winning communities will be presented with CAA awards at the annual meeting at Niagara Falls in May.

According to DBS, 619 pedestrians were killed in 1958 — the latest full-year report available from the agency.

Half of those were killed in Ontario.

Of 9,366 injured in Canada, 5,201 were in the province.

The major classes of pedestrian fatalities and injuries are the same across the country.

Using Ontario figures, the CAA found:

The greatest number of deaths, 64, occurred while crossing between intersections in urban areas, and crossing highways, with 79 in rural areas.

- **Crossing between intersections** accounted for 1,241 injured. Coming from behind a parked vehicle or object resulted in 1,193 injured.
- **Of 309 pedestrians killed,** 250 were reported to be normal.

The normal classification applied to 4,530 injured. The next highest category, 164 had been drinking.

- **The most critical age** for pedestrians is 65 and over.

One hundred were killed in this age group.

The 5-to-14 group had the highest number of injuries with 1,991.

Aim of the CAA program is to encourage communities to increase the tempo of their pedestrian safety and education programs with the prestige of a CAA award as the mark of success.

With the aid of and experience of the AAA to guide them, the CAA feels its first year in the program will show improvement for pedestrians in the near future.

Toll Road Operates In the Red

Even if traffic reaches expectations, the Montreal-Laurentian Autoroute will operate in the red this year.

Canada's only toll highway, the Autoroute sweeps 30 miles into the Laurentian mountains, offering six limited access lanes through scenic countryside.

While the road is losing money, it has been an artistic success. It has taken 65% of the traffic off Route No. 11, the old Laurentian highway, between Montreal and St. Jerome, against early forecasts of 40%.

It has cut traveling time between Montreal and the gateway to the mountain playground by more than 50%. It used to take more than a hour for the journey on the old congested road with its 43 intersections, 19 sets of traffic lights and 30-mph zones in 14 towns and villages.

Now the trip takes 30 minutes over a highway featuring 40 underpasses and overpasses which eliminate all level intersections and railroad crossings.

There are three toll gates, each with 12 automatic basket collectors. The motorist just tosses in his 25c and gets a go signal. There are four manually operated booths on each toll plaza for change-making.

Part of the Autoroute — a nine-mile section leading out of Montreal — was opened through all of 1959 and the one toll plaza at Laval des Rapides recorded 3.5 million transactions.

The full road was opened Sept. 1 and in the four months ended Dec. 31 there were 700,000 transactions at the St. Therese gates and 610,000 at St. Jerome, the northern terminus.

Forecasts for 1960 are that the three collection points will account for 40,000 transactions a day. Using the passenger car charge of 25c as a statistical base, that would mean revenue of $10,000 daily—$3,650,000 for the year.

Administration and maintenance expenses are estimated at $1 million a year. The big squeeze is interest charges on capital expenses. The Autoroute cost some $72 million, $12 million more than had been expected, and interest rates have soared well beyond the 4% target.

Last summer **Montreal-Laurentian Autoroute Board** 5¼% debentures, Series E, were offered by **Credit Interprovincial Ltée** at 96.50 to yield 5.54%.

At an average of 5% interest on the $72 million capital costs would amount to more than $3.6 million annually, just enough to absorb toll collections forecast for 1960. That leaves operating costs as a deficit.

Principal and interest, of course, is guaranteed by the Quebec government.

Forecasts perhaps are conservative. Winter travel over the route, a lot of it generated by weekend skiers, has been beyond expectations and as the full tollway was opened only in September, 1959, no one knows exactly what summer experience is likely to be.

There are two bright factors:

- **Automobile registrations** are climbing steadily in Quebec.
- **More and more people** are likely to flock to the Laurentians, now in the midst of a tremendous boom.

Between 1953 and 1958, motor vehicle registration in Quebec increased 49% and, indicating that car owners are doing more traveling, volume of gasoline sales increased 53%.

In 1955, 10.5 million cars crossed the two bridges north of Montreal leading to the Laurentians. By 1958, the number had grown to 15 million.

The winter record for Autoroute traffic was set over the weekend of Jan. 23-24 when 105,000 toll transactions were chalked up.

A minor problem has been created by motorists who try to avoid payment by using slugs.

This practice has slackened considerably since a Montreal contractor was sentenced to two months in jail and fined $200 for dropping slugs into the collection boxes.

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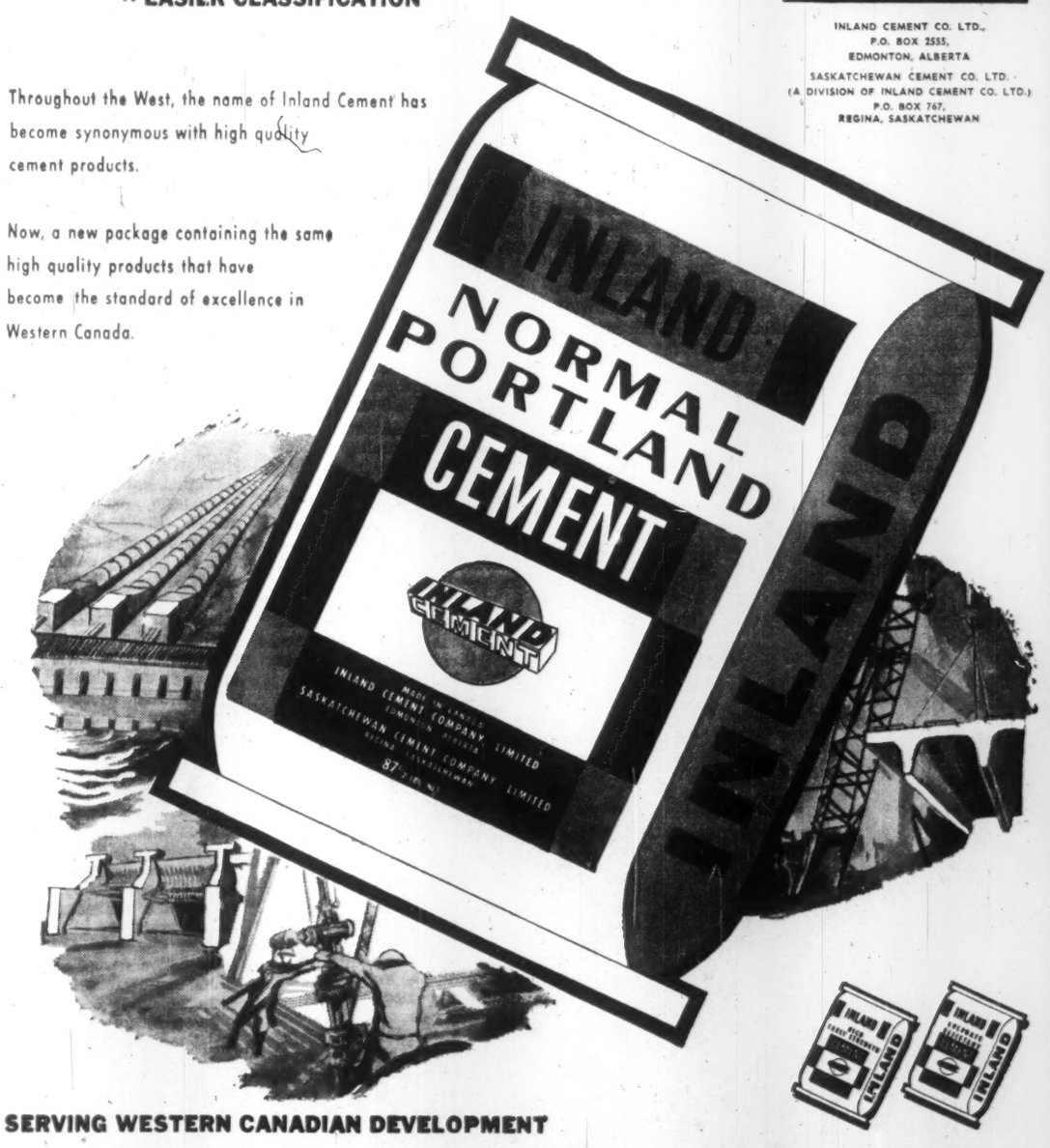

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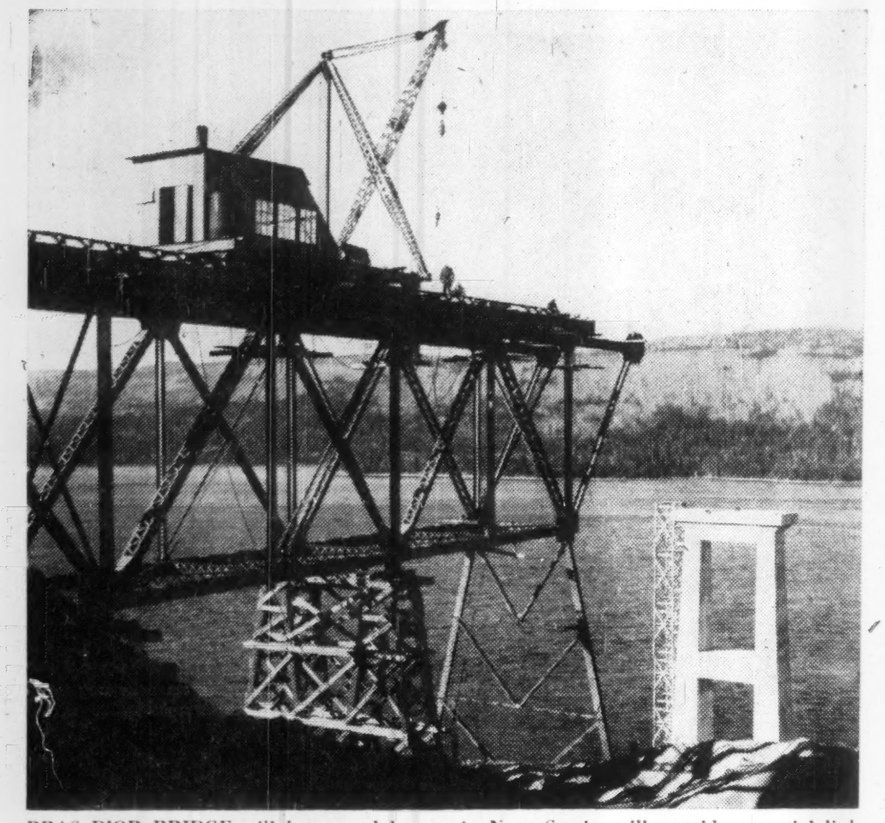

BRAS D'OR BRIDGE will be second largest in Nova Scotia, will provide essential link on Trans-Canada Highway between Cape Breton Island, Bouladerie Island, replacing ferry service.

Highways Across Canada
Nova Scotia

In the past year, $20 million was spent on highways in Nova Scotia — more than double the amount spent in 1954.

Ahead is a $30 million 10-year program of new construction on two of the province's oldest routes along the South Shore.

Portions of these highways will be straightened and rebuilt in 1960.

Minister of Highways G. I. Smith has not yet announced the highways program for 1960-61.

Prospects are for:

- **Extension** of the Trans-Canada agreement with the completion of 176 mi. of highway.
- **Completion** of 300 more mi. of paved roads.
- **Construction** of bypasses at Truro, New Glasgow and Antigonish.

Major undertakings include the Halifax Bicentennial Drive and the Dartmouth Circumferential Road, which will intersect near the new International Airport.

One section of the Bicentennial Drive, 7 mi. long and costing $1 million, is scheduled for completion in 1961.

The second section, now under survey, will be completed in five years.

A 4-mi. section of the Dartmouth highway from Lake Mic Mac to Eastern Passage was started late last fall.

It should be completed by the end of this year.

The remaining section will take five years to complete.

Both routes, designed to lessen traffic congestion in the Halifax metropolitan area, intersect at Miller's Lake, 5 mi. from the airport.

Bypass routes in the Sydney area are now in the survey stage with estimates for new construction running at $100,000 a mi.

One portion of the proposed roadway from Sydney River would bypass the city, joining the recently rebuilt Glace Bay highway.

Highways department officials say it would pay to rebuild the Sydney-North Sydney highway because of heavy maintenance costs of recent years.

Biggest single project in the province's Trans-Canada program is the Bras d'Or causeway and high level bridge.

The $8 million project is expected to be completed this year.

The route links 13 mi. of new highway to the junction of Route Five and the famous Cabot Trail.

Two ferries across the lakes will be eliminated by the crossing.

Under the roads to resources agreement, signed last year with the federal government, Nova Scotia will expand its highways by about 550 mi. by 1966.

The program is expected to cost about $15 million.

The Peggy's Cove Road was paved under the agreement.

Seek Canada-Wide Standard For All Roads and Streets

Canadians can now look forward to the day when all roads and streets throughout the country will be designed and built according to a common set of standards.

Announcement of the decision to undertake production of a manual of geometric design standards for roads and streets in Canada was made recently by the Canadian Good Roads Association. The project is expected to require three years and will involve top-flight Canadian design engineers from every section of the country.

Purpose of the study:

- **To consolidate and improve the science of road and street geometric design** and to remove from it, as far as possible, the elements of "art" and personal judgment.
- **It will enable roadway authorities across the country to plan and design their road networks** under a common system of fundamental engineering principles, developed and set out by the combined efforts of the best technologists in this field in Canada.
- **For the motorist, the geometric design standards set out in the proposed manual will mean safer, more convenient travel,** particularly on long-distance trips.
- The manual is also expected to further co-operation between roadway authorities and result in economic advantages to all municipal and provincial highway departments throughout the country.

WEIGHING 650 lb. this B.F. Goodrich rubber expansion joint can withstand up to three inches push and pull and still keep rubber flush with road surface.

At the present time, a wide variety of planning procedures and design criteria are in use in Canada. Some highway departments have carried out extensive research in an attempt to develop economical solutions to today's transportation problems. Other departments, handicapped by very little funds and technical personnel, have been forced to keep such research to a minimum.

The pooling of information required for production of the manual is expected to largely eliminate the current problem of insufficient knowledge of procedure and practices in other parts of the country.

The project will supplement the geometric design policies for rural roads and urban streets published by the American Association of State Highway Officials.

The U. S. manuals, now used by most provincial highway departments and cities, pose problems of interpretation, differences in traffic requirements, climate and terrain.

These policies, moreover, provide only a broad guide and do not eliminate the need for specific standards.

The decision to undertake the project was made by the Good Roads Association following a recommendation by a steering committee set up in 1958 to study the problem.

In its report, the nine-man committee stated:

"There is too little control and therefore too much variation in roadway design standards in Canada.

"Many agencies are handicapped by lack of proper standards. There is need for a manual incorporating comprehensive sets of geometric design standards for roads and streets in Canada which will be directly related to a classification system.

"The classification system should be included in the manual and should be based on the present CGRA publication on this subject."

Following acceptance of the proposal, the sponsoring group, CGRA's planning and design committee, is now recruiting design engineers to staff the five working subcommittees of the project.

Each subcommittee will be responsible for one section of the manual. The five sections are: road and street classification and planning procedures; cross-section elements; elements of design; intersection design elements; grade separations and interchanges.

An executive and an editorial subcommittee have also been named. The executive subcommittee is responsible for minor policy decisions, for expediting the program of work, for confining or overcoming any overlapping and for ensuring that each group adheres to its terms of reference.

Computer Studies Highway Designs

An electronic computer has come to the aid of a small army of Canadian engineers and technologists now carrying on an analysis of the performance of all existing pavements of various designs on the nation's provincial highway systems.

The group in charge of the operation is the Canadian Good Roads Association's special committee on pavement design and evaluation.

Ten provinces and the federal government are participating in the long-range project which got under way in September, 1958.

Already, an inventory of several thousands of miles of Canadian highways has been taken and a preliminary analysis of the data received thus far has been made with the aid of an electronic computer.

Results of the investigation are expected to lead to the saving of millions of dollars to the Canadian public in road construction and maintenance costs.

Primary objectives of the investigations of the special committee:

- **To develop economical methods of design** for rigid and flexible pavements for Canadian conditions of environment and traffic.
- **To develop one or more methods of evaluating the strength** and serviceability of existing rigid and flexible pavements.

Within six months of its formal authorization, the committee announced adoption of a master plan involving the collection of data on existing highway systems in all provinces and co-operative analysis of this data from a central point.

Investigations are being carried out by the existing staffs of the individual departments, using equipment and facilities already available. The plan included rigid specifications for performing all tests and for tabulating all data so that results obtained by each department will be comparable.

By the spring of 1959, five provincial highway departments and two federal departments had organized their forces to carry out investigations based on the master plan of the CGRA committee.

An intensive summer schedule saw the completion of over 2,000 mi. of road inventory by these departments.

Tally sheets completed by the departments were forwarded to Victoria, where the data was recorded on IBM cards which were then sent to Toronto for computer analysis.

This preliminary analysis was presented and discussed at a four-day meeting of the special committee in Toronto last month.

A progress report on the project and the results developed to date, will be presented in the form of a symposium on pavement investigation, at the 41st convention of the Canadian Good Roads Association in Toronto in September.

This summer, pavement evaluation teams will be at work in every Canadian province. The five Western provinces which commenced work last year are expected to complete their investigations by the fall of 1960.

Current field investigations compose Stage 1 of the three-part program set down by the special committee in its manual on pavement investigations, published by CGRA.

Objectives of the first stage of the program include:

- **The development of a method** for the design of new pavements based upon past experience.
- **Determination of pavement deficiencies** in the existing highway system for use in future programming of highway construction and reconstruction.
- **Determination of the life expectancy** of various pavements under different traffic and environmental conditions.

The objective of Stage 2 is to determine the seasonal variation in the vehicle load-carrying capacities of existing highways and of various pavement designs and subgrade soils so that either pavements may be designed to compensate for these seasonal variations or load limits be rationally regulated.

Stage 3 of the plan, based upon information and conclusions of Stage 1 involves detailed investigations of certain pavement designs, both on the site and in the laboratory, to explain the performance of these designs so that present experience can be applied to new conditions.

Membership in the committee on pavement design and evaluation includes one representative from each of the provincial highway departments, one representative each from the federal departments of public works and transport, two university professors actively engaged in pavement research work, two engineers from industry, and a member of the CGRA secretariat.

Chairman of the committee is E. B. Wilkins, Research and Development Engineer with the British Columbia Department of Highways.

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This reputation has grown out of an enviable record of performance over the years.

Again this year a great construction program lies ahead of us — too vast to list in detail. Among the many major projects is Ontario's second skyway, a $17,000,000 high-level bridge over the Welland Canal at Homer near St. Catharines.

Ontario's part of the Trans-Canada Highway, 1454 miles of highway built to meet the most exacting standards, is nearing completion and will be open to regular traffic late this autumn.

"The Gap" south of White River, last unfinished portion of this road, is steadily being closed to allow highway connection between the Soo and the Lakehead.

New sections are continuously being added to transprovincial highway 401 from Windsor to the Quebec border. By 1963, this road will provide uninterrupted travel over more than 500 miles, by-passing all urban centres en route. This will mean a comfortable one-day trip from Montreal to Detroit — undreamed of a few years ago.

At the same time the greater part of Ontario's highway program is devoted to the reconstruction and improvement of the network of King's Highways throughout the Province.

Thus, the Department of Highways helps Ontario grow to new greatness year after year.

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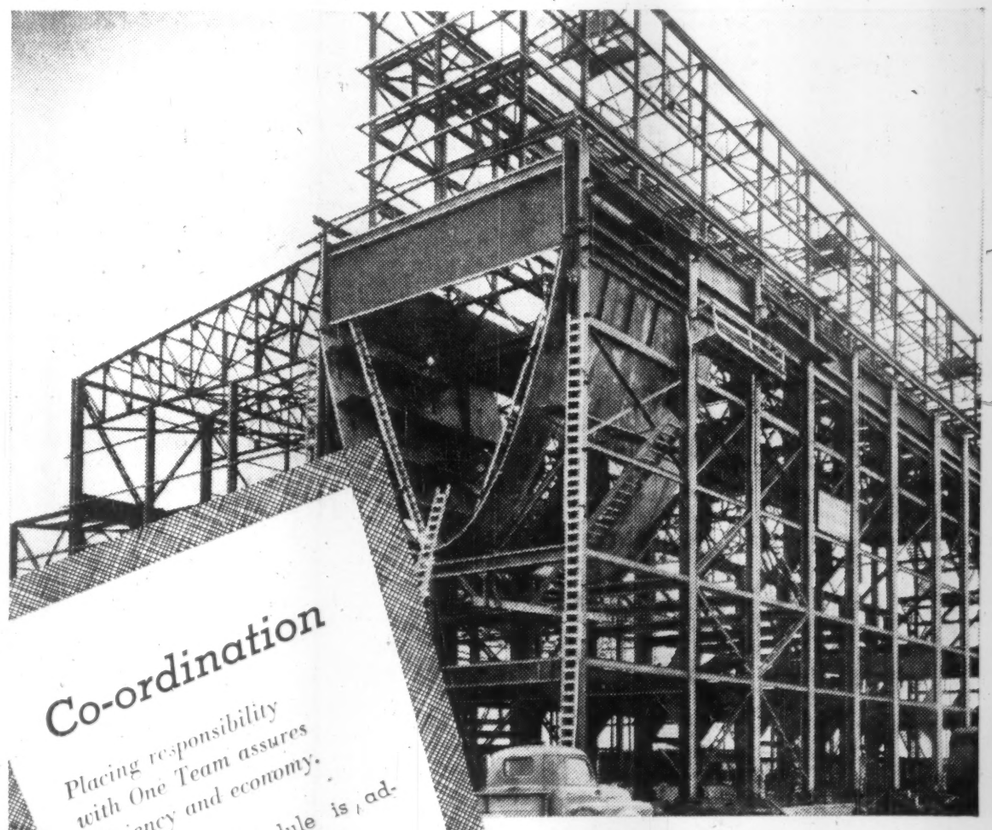

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